# Detailed Site Investigation - Concord High School

7 August 2022







3 Stanley Street, Concord NSW 2137

Prepared for School Infrastructure New South Wales

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Site Address:	3 Stanley Street, Concord NSW 2137	
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Central Site Coordinates	00 004400 454 400000	
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A short video summary of this report has been prepared (CLICK HERE) for your convenience





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# **Abbreviations**

Term	Definition
ACM	Asbestos Containing Material
ADWG	Australian Drinking Water Guidelines
AEC	Areas of Environmental Concern
ANZG	Australian and New Zealand Guidelines
AS	Australian Standard
Asbestos HSLs	NEPM ASC/WA DoH Health screening levels for asbestos contamination in soil. NEPM ASC Schedule B1, Table 7
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soil Management Plan
BaP	Benzo(a)pyrene
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes and Napthalene
CEnvP	Certified Environmental Practitioner
CEnvP SC Specialist	Certified Environmental Practitioner Site Contamination Specialist
СН	Chlorinated Hydrocarbons
CLM Act	Contaminated Land Management Act
coc	Chain of Custody
Concord HS	Concord High School
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DP	Deposited Plan
DQIs	Data Quality Indicators
DQOs	Data Quality Objectives
DSI	Detailed Site Investigation. A Tier 1 investigation in accordance with the NEPM ASC
EIL(s)	NEPM ASC Ecological Investigation Levels for selected metals and organic substances in the top 2 m of soil and are applicable for assessing risk to terrestrial ecosystems
EPA	Environmental Protection Authority
EPL	Environmental Protection Licence
ESL(s)	NEPM ASC Ecological Screening Levels
GILs	Groundwater Investigation Levels
GPS	Global Positioning System
HAZMAT	Hazardous Materials
HIL(s)	NEPM ASC Health Investigation Levels
HSL(s)	NEPM ASC Health Screening Levels (HSLs)
iEnvi	iEnvironmental Australia Pty Ltd
LAA	Licenced asbestos assessor
LNAPL	Light Non-Aqueous Phase Liquid
mAHD	Elevation in metres above seal level based on Australian Height Datum
mbgs	metres below ground surface





Term	Definition
MEIANZ	Member of the Environment Institute of Australia and New Zealand
MEK	Methyl Ethyl Ketone (2-Butanone)
NATA	National Association of Testing Authorities
NE	North East
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measure (amended April 2013)
NEPM ASC	National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended April 2013)
NHMRC	National Health and Medical Research Council
NRMMC	Natural Resource Management Ministerial Council
NSW	New South Wales
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCoC	Potential Contaminants of Concern
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances
PFOS	Perfluorooctanesulfonic Acid
PID	Photoionisation Device
PSA	Preliminary Site Assessment
PSI	Preliminary Site Investigation
QA	Quality Assurance
QC	Quality Control
RAP	Remediation Action Plan
RPD	Relative Percent Difference
SAQP	Sampling, Analysis and Quality Plan
SINSW	School Infrastructure New South Wales
SSM	Soil Sampling Method
SWL	Standing Water Level
the Client	School Infrastructure New South Wales
the site	3 Stanley Street, Concord NSW 2137
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
USEPA	United States Environmental Protection Agency
USTs	Underground Storage Tanks
VOCs	Volatile Organic Compounds





# 1 Executive Summary

iEnvironmental Australia Pty Ltd (iEnvi) was engaged by School Infrastructure New South Wales (SINSW; the Client) to complete this Detailed Site Investigation (DSI) relating to a proposed upgrade development at Concord High School, Stanley Street, Concord NSW 2137 (the site; Concord HS). This DSI was conducted to assess the contamination status of the site before the commencement of construction for the proposed development upgrades.

The 3.38 ha property includes Lots 1, 2 and 3, on DP1114919, Lot 1 on DP60167, Lots 15, 18, 19 and 20 on DP8687. The property is currently zoned R3 - Medium Density Residential in the City of Canada Bay local government area, approximately 11 km west of Sydney's central business district. Surrounding land use includes public recreation and low and medium-density residential areas.

This DSI followed a preliminary site investigation (PSI; iEnvi, 2022) which indicated that Farleigh Nettheim historically owned and operated a leather manufacturing facility (tannery) at the site that was sold in 1967 to the NSW Department of Education for future construction of Concord HS. The demolition of the tannery and construction of Concord HS was completed between 1978 and 1979.

The DSI included a soil investigation, groundwater monitoring well installation and groundwater sampling. The soil sampling fieldwork was conducted on 20 and 21 June 2022. Groundwater sampling was completed on 28 June 2022.

No visible or olfactory evidence of contamination was observed during soil and groundwater sampling and investigation. Groundwater is present at the site in level areas between 1.5 and 3 metres below ground surface (mbgs), and likely flows to the east or northeast toward a concrete-lined stormwater canal 150 m east of the site which runs into Parramatta River, 600 m northeast of the site.

Fill soil was identified in all sample locations across the site. Deeper bores delineated fill as follows:

- 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and
- > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL.

The following contaminants of concern were detected in samples:

• no asbestos was visually identified during sampling at the site. Only one asbestos containing material (ACM) fragment was detected in sample BH07, near the southern pedestrian entrance near Stanley Street above health screening level (HSL) criteria. Previous investigations have detected additional asbestos at the site, and test pitting/trenching methods may find more ACM in fill at the site. The site currently has an asbestos register and an Asbestos in Grounds Management Plan (Appendix J) which should be followed and ensure gardeners and maintenance/construction workers are aware of health management protocols when undertaking works at the site. Location





BH07 and more broadly, fill across the site, should be included as part of a revision of the Asbestos in Grounds Management Plan and site asbestos register;

- benzo(a)pyrene (BaP) was detected in fill soil above ecological screening level (ESL) criteria in several locations across the site. No other polycyclic aromatic hydrocarbons (PAHs) exceeded Tier 1 criteria. No BAP concentrations were detected in groundwater indicating the mobilisation of BaP from fill soil is likely low. Low concentrations of BaP are common in historical fill in some areas of Sydney;
- no odours, staining or significant PID readings that would indicate the presence of volatile hydrocarbons were detected in soil at the site. No hydrocarbon concentrations exceeded Tier 1 health risks criteria at the site. Some total recoverable hydrocarbon (TRH) F2 fraction concentrations exceeded ESLs. The source of these hydrocarbons may be from older tannery operations oils, solvents, and petroleum use, and there is the potential to be derived from imported fill at the site. The ecological criteria of hydrocarbons exceedances in soil are not considered significant or a risk requiring action. No soil hydrocarbon concentrations exceeded Tier 1 health risk criteria;
- perfluoroalkyl and polyfluoroalkyl substances (PFAS) concentrations were not detected in soil. Low-level concentrations of PFAS compounds were detected in all groundwater samples. PFAS-containing products were used in tannery practices toward the end of the site's former tannery operations. The source of PFAS may be historical tannery sources, or due to the long persistence time in the environment, the concentrations may have migrated from offsite sources. The contamination is considered unlikely to migrate to human receptors in the area due to no groundwater extraction being likely, however, the stormwater canal 150 m east of the site and Parramatta River 600 m northeast of the site are considered potential ecological receptors. Perfluorooctanesulfonic acid (PFOS) exceeded PFAS NEMP 2.0 Tier 1 criteria in well MW03 only, however, the quality sample QW01 (duplicate of MW02) contained PFOS concentrations equal to the ecological criteria representing uncertainty on the MW02 analytical result. Potential historical fire events where fire fighting foams were used at the school should also be investigated as a potential source. As the exceedance was not detected in all groundwater at the site, the ecological risk is considered moderately low to offsite ecological receptors, however, this should be confirmed with an additional sampling round. PFAS cross-contamination is a high risk when sampling and so additional samples and duplicate samples are recommended to confirm the result in MW03 which is only marginally above ecological Tier 1 risk criteria and confirm the PFAS concentrations in MW02;
- no soil sample metal concentrations exceeded the site use health (HIL C) criteria, however, two locations BH01/0.2 (lead) and BH11/2.5 (arsenic) exceeded residential (HIL A) criteria. BH01 is in a location near offsite residential receptors, unlikely to be disturbed during construction and covered in grass and is considered low risk and the elevated concentration was not detected in nearby bore samples. The arsenic exceedence in BH11 at 2.5 m depth is isolated and unlikely to cause any human health risk to residential receptors;





- groundwater samples dissolved metals concentrations exceeded freshwater and marine
  water ecological criteria for copper, mercury, nickel and zinc. Copper and zinc
  concentrations may be partly associated with background concentrations. Metals impacts
  in the subsurface may be associated with the former tannery use of the site;
- hexavalent chromium was not detected in any soil samples. Dissolved hexavalent chromium concentrations were only detected in groundwater in MW02. The concentration detected in MW02 exceeded freshwater and marine water ecological Tier 1 risk criteria, and is likely associated with the former tannery operations at the time;
- ammonia concentrations were only detected in MW02, and MW02 exceeded freshwater and marine water ecological Tier 1 risk criteria. The elevated ammonia and nitrogen levels in downgradient monitoring well MW02 (and other impacts) may require further offsite investigation and risk assessment; and
- acid sulfate soil was not detected in shallow soil at the site; however, potential acid sulfate soil is likely present in deeper soil (i.e. > 1.5 mbgs) toward the eastern boundary of the site but is unlikely to be disturbed or requirement management during development construction unless deep excavations are planned in this area.

The relative percent difference (RPD) in some laboratory duplicate, as well as field duplicate quality sample results, indicated that there was potential for errors or cross-contamination associated with metals, PFAS, PAHs and TRHs in samples, which may have caused some variation in results, however, the overall data quality for this investigation is considered reliable.

Based on the results of this investigation, the following is recommended:

- update the 2020 asbestos register and Asbestos in Grounds Management Plan now that earthworks and upgrades have been completed in the Tiger Turf field construction and additional asbestos has been detected in fill soil. Ensure compliance with the requirements including inspections are recorded and maintained relating to the eastern portion of the site. Due to the presence of ACM (above human health screening criteria) detected in BH07 at the pedestrian entrance area on Stanley Street, ensure revisions to the asbestos management relate to disturbance of soil across the entire site as a precaution. This is due to the uncertainty in sampling using boreholes and not collecting bulk soil samples that would be collected with test pits and the heterogeneity of fill;
- resampling all wells is recommended due to the potential for laboratory crosscontamination and to confirm low-level PFAS results. Determine if any significant historical fire events were recorded in the vicinity of MW03 where firefighting foams may have been used that may have been a potential source of PFAS. No soil PFAS impacts were detected, however, detection limits were higher than those used for groundwater;
- a hydrogeological study including levels survey and data logging of wells to determine groundwater flow and risk to potential ecological receptors from various groundwater impacts observed in MW02 and dissolved metals in all wells;
- based on the results of the additional investigation noted above, installation of offsite groundwater monitoring wells may be required;





- an acid sulfate soil management plan (ASSMP) should be prepared if deep excavation in the east of the site (>1.5 mbgs) is to occur during development construction; and
- if monitoring wells are required to be decommissioned during development construction, a licensed drilling contractor should complete this in accordance with Minimum Construction Requirements for Water Bores in Australia, 3rd Edition (NUDLC, 2012).

## 2 Introduction

iEnvironmental Australia Pty Ltd (iEnvi) was engaged by School Infrastructure New South Wales (SINSW; the Client) to complete this Detailed Site Investigation (DSI) relating to a proposed upgrade development at Concord High School, Stanley Street, Concord NSW 2137 (the site; Concord HS). This DSI was conducted to assess the contamination status of the site prior to the commencement of construction for the proposed development upgrades.

The 3.38 ha property includes Lot 1, 2 and 3 on DP1114919, Lot 1 on DP60167, Lot 15, 18, 19 and 20 on DP8687, and Lot 3 on DP861670. The property is currently zoned R3 - Medium Density Residential in the City of Canada Bay local government area, approximately 11 km northwest of Sydney's central business district. Surrounding land use includes public recreation and low and medium-density residential areas.

A sampling, analytical and quality plan (SAQP) was completed based on information collected in the PSI, outlining the basis, scope and quality controls for the DSI. The soil sampling fieldwork was undertaken on 20 and 21 June 2022. Groundwater sampling was completed on 28 June 2022.

A total of 26 primary soil samples were collected from 18 soil bore locations advanced across the site by hand auger and drill rig solid flight auger. Three groundwater monitoring wells were installed and sampled. All soil and groundwater samples were submitted to a National Association of Testing Authorities (NATA) accredited laboratory for analysis of PCoC.

## 2.1 Objectives

The purpose of this DSI was to determine whether there is potential for former or current activities or surrounding land use activities to have resulted in contamination which may cause significant human health or environmental risk during the proposed development and ongoing use of the site.

The specific objectives of the DSI were to:

- investigate the site for types and locations of historical potential sources of contamination;
- investigate the PCoC in the land at the site by sampling in accordance with the SAQP;
- update the conceptual site model, including the horizontal and vertical delineation of contaminants at the site;
- assess whether groundwater has been impacted by contaminants at the site; and



3 Stanley Street, Concord NSW 2137

 assess the site and contamination risk to identify current and future use and activities at the site, including during the planned development upgrades construction phase.

#### 2.2 Description of the Future Use and Proposed Development

Development of the site is to be undertaken to accommodate the increasing demand for the school resulting from the projected population growth in the wider area. Due to the limited site space, the development of the site will primarily focus on building up, with the addition of multi-story buildings on the footprint of currently existing infrastructure. Future use of the site will be continued use as a secondary school. The proposed concept designs for the site are provided in Appendix B.

#### 2.3 Scope of Work

To achieve the objectives, the following scope of work was undertaken.

#### Site Inspection, Soil and Groundwater Sampling and Analysis

- Review of Dial Before You Dig (DBYD) information (refer to Appendix C);
- screening of drains and service manholes for volatile organic compounds (VOCs) using a photoionisation device (PID);
- collection of soil samples at 0.1 mbgs and up to 2.1 mbgs with the deeper samples to be kept on 'hold' unless required for analysis due to contamination in the shallower samples;
- logging of soil to USCS/Australian Standard (AS) methods, and field screening of samples using a PID to measure VOC concentration;
- sampling of three pre-existing groundwater wells by low-flow methods;
- decontamination of equipment to prevent cross-contamination, using Liquinox and "PFAS free" water supplied by Eurofins;
- analyses of soil and groundwater samples at a NATA accredited laboratory including the following:
  - five primary soil samples for analyses of total recoverable hydrocarbons (TRH C6-C40); benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN); polycyclic aromatic hydrocarbons (PAH); phenols; pesticides; polychlorinated biphenyls (PCBs); volatile organic compounds (VOCs); vinyl chloride; metals (As, Cd, Cr, Cu, Ni, Pb, Hg, Ag, Sn, Mo, Se, Zn and hexavalent chromium); cyanide; total fluoride and pH (Vic EPA IWRG621);
  - ten shallow soil samples for analyses of asbestos (quantification per NEPM 2013 Guidelines);
  - five soil samples for analysis of PFAS Full Suite (30 analytes to trace levels of 0.001-0.005 ug/L);
  - twelve soil samples for analysis of pH (1:5), soluble sulfate;
  - seven soil samples for analysis of TRH(C6-C40), BTEXN, PAH, phenols, eight metals (As, Cd, Cr, Cu, Ni, Pb, Hg, Zn) and VOCs;





- three primary groundwater samples for analysis of TRH (C6-C40), BTEXN, PAH, phenols, pesticides, PCBs, eight dissolved metals and PFAS (30 analytes to trace levels of 0.001-0.005 ug/L);
- one groundwater field duplicate for analysis of TRH(C6-C40), BTEXN, PAH plus eight dissolved metals;
- one soil field duplicate and one soil laboratory duplicate for analysis of TRH(C6-C40), BTEXN, PAH, phenols and eight dissolved metals; and
- three field blank quality samples comprising one trip blank and two rinsate blanks (hand auger and interface probe) for analysis of TRH(C6-C10), BTEXN plus F1 and F2.

#### Site Investigation Report

 preparation of a Detailed Site Investigation Report including drawings and attachments for submission to the Client for review and comment.

#### 2.4 Regulatory Guidelines

- CRC CARE (2011) Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater:
- CRC CARE (2013) Petroleum hydrocarbon vapour intrusion assessment: Australian guidance, CRC CARE Technical Report no. 23, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia;
- Enhealth (2012) Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards, Department of Health and Ageing and EnHealth Council, Commonwealth of Australia 2012;
- National Environmental Protection Council (NEPC) (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended April 2013);
- NHMRC & NRMMC (2011) Australian Drinking Water Guidelines (ADWG) National Health and Medical Research Council & Natural Resource Management Ministerial Council;
- NSW Department of Urban Affairs and Planning (1998) Managing Land Contamination:
   Planning Guidelines: SEPP 55 Remediation of Land, (August 1998);
- NSW EPA (2007) Guidelines for the Assessment and Management of Groundwater Contamination:
- NSW EPA (2011) Guidelines for Consultants Reporting on Contaminated Sites (2011).
   NSW Office of Environment and Heritage;
- NSW EPA (2015) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (July 2015);
- NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (3rd Ed.) (2017);
- NSW EPA (2020) Consultants Reporting on Contaminated Land: Contaminated Land Guidelines (April 2020);





- NSW Government (1997a) Contaminated Land Act 1997;
- NSW Government (1997b) Protection of the Environment Operations Act 1997 (No. 156).
   13 April 2022;
- NSW Government (2013) Contaminated Land Management Regulation 2013;
- NSW Government (2014) Protection of the Environment Operations (Waste) Regulation 2014;
- NSW Government (2021) Protection of the Environment Operations (General) Regulation 2021; and
- Standards Australia (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005).

# 3 Project Personnel

The personnel involved in delivering this project are listed in the table below.

**Table 1: Project Personnel Details** 

Personnel	Company	Position	Project Responsibility
Michael Nicholls – 20 years experience, B Env Sc, MEIANZ, CEnvP Site Contamination specialist	iEnvi	Principal Environmental Scientist	Project Director, Report senior review
I-hui Waung >15 years, PhD Marine Ecol, BSc Hons (Geog), BSc (Env Sc).	iEnvi	Senior Environmental Scientist	Fieldwork, Project Management
Thorndyke Law >2 years, B Laws, B English	iEnvi	Administration/Project Manager	Reporting
Siobhan Condren > 1 year, B Sc (Hons)	iEnvi	Graduate Environmental Scientist	Reporting
Naresh Chinthalapudi	Structerre Engineering	Driller/Engineer	Drilling and Concrete Cutting
Michael Myles	Australian Locating Services	Telstra Accredited Service Locator	Underground services clearance and test pit location clearance.
Primary Laboratory	Eurofins Laboratory Services	NATA accredited laboratory	Laboratory analysis (primary and duplicate samples)
Secondary Laboratory	ALS Global	NATA accredited laboratory	Laboratory analysis (triplicate samples)

# 4 Site Conditions and Local Environment

#### 4.1 Site Identification

The table below summarises the identification of the site subject to this investigation. The site location can be viewed in Figure 1, and site features in Figure 2.





Table 2: Site Identification Details

Table 2. Site identification Detail		
Site Address:	3 Stanley Street, Concord NSW 2137	
Lot and DP Number:	Lots 1, 2 and 3, on DP1114919 Lot 1 on DP60167 Lots 15, 18, 19 and 20 on DP8687	
Site Size (Ha):	3.38	
Area of Investigation (Ha):	3.38	
Local Government Area:	City of Canada Bay	
Current Zoning:	R3 - Medium Density Residential	
Plan Overlays:	-	
Current Property Owner:	Minister for Education	
Site Operator:	Education NSW (Concord High School)	
<b>Current and Recent Activities at Site:</b>	Secondary School	
Historical Activities at Site (if known):	tannery (leather manufacturing)	
Future Use (if known):	Continuing use as a Secondary School	
ASC NEPM Site Use Type:	recreational	
Future ASC NEPM Site Use Type:	recreational	
Surrounding Land Use:	low density residential, recreational	
Nearest Capital/Major City:	Sydney, NSW	
Distance from nearest CBD:	11 km W of Sydney, NSW	
Central Site Coordinates	00.004400.454.40000	
EPSG:4283 GDA94	-33.864108, 151.109308	
Site Elevation (approximate)	5 mAHD	

## 4.2 Site Description

Please review the information relating to the site below based on information collected during this PSI. Please refer to Figure 2 for an approximate site layout map and sampling locations. A Photo log outlining features identified during the site fieldwork has been included in Appendix A.





Table 3: Site and Surrounding Information

Category	Observation
Current Use	Concord High School (Secondary School)
Site Features	Based on a review of aerial photographs and anecdotal information the following site features were identified:  sports courts located at the southeastern corner of the site; much of the main building infrastructure stretches from the central southern to the northern portions of the site; the demountable classrooms are located in the central northern portion of the site; the western portion of the site appears to consist primarily of vegetation and is used as a lunch area; and the central-eastern portion of the site was under redevelopment
Historical Site Use	The site appears to have been used as a Concord High School since its opening by Sir James Rowland (former governor of NSW) on 6 May 1981. Before the construction of the school from 1978 to 1979, the site appears to have been utilised for a leather tannery (Figure 3).
Asbestos Containing Materials (ACM) and Lead-Based Paint	Asbestos cement was commonly used in building materials in Australia from the mid-1940s until the late 1980s. During the 1980s asbestos cement materials were phased out in favour of asbestos-free products.  http://www.health.gov.au/internet/publications/publishing.nsf/Content/asbestos-toc~asbestos-when-and-where.  Additionally, as buildings previously present at the site were demolished prior to 1980, there is the possibility that ACM contained within demolition rubble remains in subsurface fill at the site. An asbestos register is completed for the site noting the presence of ACM in several site buildings and in the soil at the site (Appendix J).  Due to the age of the building, there is a potential risk of lower concentration lead-based paints being present on site.  The lead concentration in domestic paint declined in Australia from 50 per cent before 1965, to 1 per cent in 1965. Before 1970, paints containing high levels of lead were used in many Australian buildings. In 1992, it was reduced to 0.25 per cent, and in 1997 it was further reduced to 0.1 per cent http://www.environment.gov.au/protection/chemicals-management/lead/lead-in-house-paint.  A hazardous materials (HAZMAT) survey was not conducted as part of the PSI however previous investigations and the site's Asbestos In Grounds Management Plan (WSP, 2020) and Site Asbestos Register have confirmed the presence of asbestos in soil and buildings - refer to Appendix J.
Chemical and Fuel Storage and Use	There is no bulk fuel or chemical storage onsite.
Waste Generation and Storage	Standard waste bins are located onsite for general rubbish collection.
Per- And Poly-Fluoroalkyl Substances (PFAS)	There were no known current PFAS generating activities identified onsite. There are no PFAS investigation or management programs listed in the surrounding area buffer of 1,000 m. PFAS-containing products were used from the 1960s onwards in tannery production and may have been used at the site.
Dry Cleaners, Service Stations, Underground Storage Tanks (USTs) (Chlorinated and Petroleum Hydrocarbons)	There are no historical records of underground storage tanks (USTs), service stations or dry cleaners on the site.  Four operational National Liquid Fuel Facilities were located within the dataset buffer, in addition to 5 historical service stations, or dry cleaners.
Acid Sulfate Soils	Based upon the Atlas of Australian Acid Sulfate Soils, the site is mapped as having low probability (60-70%) of containing ASS in the eastern portion of the site, while the remainder of the site is considered to be extremely low (1-5%). This is most likely due to the presence of infilled wetlands. Soil is class 2 in the eastern portion of the site (refer to Figure 2).
Flora and Fauna	The site contains a number of trees around the edge of the site and around the main infrastructure, and any surface not covered with a hardstand has grass or garden bed coverage, except the Tiger Turf sports field construction area.
Surface Covering/Vegetation	The majority of the site appears to be covered in hardstand (70%), with the remaining 30% either vegetated or bare surface currently part of a smaller construction project.
Topography and Infilling	The site is relatively flat, gently sloping down towards the south. The general site





Category	Observation
	elevation is approximately 5 m Australian Height Datum (mAHD).
Surface/Stormwater Drainage	Rainwater likely drains to the onsite stormwater drainage network or else is infiltrated into the soil onsite or nearby. Refer to DBYD information in Appendix C.
Drinking water supply	Municipal. Refer to DBYD information in Appendix C.
Domestic wastewater (sewage)	Municipal. Refer to DBYD information in Appendix C.

#### 4.3 Surrounding Land Use and Water Bodies

The site is zoned R3 - Medium Density Residential. Surrounding land use includes public recreation, and low density residential land use (refer to Figure 1). The surrounding land uses are described in the table below.

Table 4: Surrounding Land Use

Direction	Land Use or Activity	
North	Site is bordered by Crane Street, followed by medium density residential dwellings.	
East	Site is bordered by recreational land (Cintra Park, St Lukes Park) consisting of oval, hockey, netball, football and tennis facilities. This is followed by residential land use.	
South	Site is bordered by Stanley Street, followed by the southeastern portion of St Luke's Park, residential land use and Concord Oval.	
West	Site is bordered by residential dwellings, followed by Burwood Road, Concord PublicSchool and residential land use.	
Nearest Surface Water Bodies:	The nearest surface water body is an unnamed concrete-lined stormwater canal 150 m east of the site which runs into Parramatta River, 600 m NE of the site.	

## 4.4 Surface Water, Drainage and Flood Potential

The nearest (downgradient) surface water body likely to receive surface water or groundwater from the site is the concrete-lined stormwater canal located approximately 150 m east of the site. The canal flows into Parramatta River 600 m northeast of the site. This eventually flows into the Sydney Harbour approximately 8 km northeast of the site.

The approximate average surface elevation at the site is 5 mAHD.

The site surface is relatively flat. However, the natural gradient in the area slopes gently from west to east/northeast.

The site is not located within the flood hazard area identified by the City of Canada Bay.

## 4.5 Site Regional Geology and Hydrogeology

According to the Atlas of Australian Soils, the landscape and soil at the site are classified as:

 Kurosols - Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils with hard neutral and acidic yellow mottled





soils on lower slopes and in valleys. Associated are small areas of various soils including on some ridges, on some slopes, in saddles and some mid-slope positions, and some low-lying swampy areas of soils and soils with peaty surfaces.

The Atlas of Australian Acid Sulfate Soils predicts that while the majority of the site would be considered Class 5 Acid Sulfate Soils, the northeastern corner of the site is classified as Class 2. This outlines that works below the natural ground surface may present an environmental risk and any works by which the water table is likely to be lowered present an environmental risk.

The underlying regional geology beneath the site is likely to consist of:

- Ashfield shale black to light grey shale and laminate from the Middle Triassic; and
- anthropogenic deposits (reclaimed estuarine areas) the natural surface elevation has been raised through infill activities over former estuarine swamps and subaqueous estuarine margins.

The Hydrogeology Map of Australia Commonwealth of Australia (Geoscience Australia) describes aquifers in the area as porous, extensive aquifers of low to moderate productivity.

The groundwater flow direction is inferred to be towards the Parramatta River north west of the site, which may result in flow direction being influenced by tidal variation. The groundwater table was encountered at approximately 1.5 m to 3.0 m below level surfaces at the site.

Drilling indicated a general soil profile that included:

- 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and
- > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL.

#### 4.5.1 Registered Groundwater Bore Search

A search of registered groundwater bores in the region was conducted as part of the PSI which identified 28 bores registered within 2 km of the site. These were primarily functional bores located to the west and southwest of the site, used for monitoring purposes. The following is a summary of the registered bores within 500 m of the site:

Table 5: Registered Groundwater Bores

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date		Direction and Distance
10038878	GW102215	Dewatering	Unknown	12/05/1999	15.00	208 m West
10032240	GW112140	Monitoring	Functional	21/01/2003	52.18	237 m South West

Based on the drillers' logs located approximately 1 km south-west of the site, the anticipated standing water level elevation is approximately 1.5 mbgs. This DSI confirmed groundwater is present at the site at approximate depths ranging from approximately 1.5 mbgs to 3.0 mbgs at the level areas at the site.





# 5 Site History and Background

A preliminary site investigation was previously conducted by iEnvi (2022), a summary of which is provided below.

#### 5.1 Preliminary Site Investigation - Concord High School (iEnvi, 2022)

The PSI comprised a review of available current and historical information about the site and its surroundings. A site inspection was also completed by a suitably qualified Environmental Scientist on 18 May 2022. Current and recent use of the site includes Concord High School since 1980. Farleigh Nettheim historically owned and operated a leather manufacturing facility (tannery) at the site that was sold in 1967 to the NSW Department of Education for future construction of Concord HS. The demolition of the tannery and construction of Concord HS was completed between 1978 and 1979.

The former tannery use of the site may have left residual contamination, and there remains a risk associated with a number of potential residual contaminants associated with tannery effluent discharge, sludge and waste, that may have impacted the soil, soil vapour and groundwater at the site.

#### Other findings include:

- the former tannery was likely demolished from 1978 to 1979, and Concord HS was constructed in 1979. This was before environmental regulations were established in NSW (in 1985) and environmental controls and remediation were therefore unlikely to have been implemented during the demolition and construction of earthworks;
- the former tannery is a potential source of a variety of contaminants that should be further investigated before construction earthworks. Mixed fill material was observed below demountable buildings during the site inspection;
- wetlands connected to the Parramatta River previously existed in the northeastern portion
  of the site, how these were infilled in the early 1970s, and there was an increased risk of
  acid sulphate soils in the portion of the site and is subject to planning controls as Class 2
  Acid Sulfate Soils; and
- due to the age of the previous and current infrastructure at the site, there is potential for hazardous building materials to be present at the site. It is understood that hazardous materials in buildings to be demolished are being assessed and managed in a separate investigation.

Based on these findings, the completion of a DSI was recommended.





# 6 Contamination Assessment Criteria

The site is currently a secondary school under redevelopment. The intended future use of the site is likely a continuation of the current use.

Contamination assessment criteria were based on the following identified potential contaminants of concern in the PSI.

## 6.1 Potential Contaminants of Concern (PCoC)

Prior to sampling, the following potential contaminants of concern (PCoC) were identified at the site.

**Table 6: Potential Contaminants of Concern Review** 

Contaminants	PCoC Soil	PCoC Water	PCoC Vapour/Gas	Comment
Asbestos	Yes	-	-	Potentially in underlying fill material (not confirmed) and building materials. Asbestos is identified in the site's Asbestos Management Plan
Metals	Yes	Yes	-	Potentially in underlying fill material (not confirmed), and from a historical tannery at the site. Also leach of metals caused by potential acid sulfate soils (ASS).
pH/Acid Sulfate Soils	Yes	-	_	The site is considered moderate (Class 2) risk of acid sulfate soils (Table 3).
Hexavalent Chromium	Yes	Yes	-	Potential, from historical tannery located at the site.
Volatile Petroleum Hydrocarbons	Yes	Yes	Yes	Potential, from historical tannery located at the site.
Semi-Volatile Petroleum Hydrocarbons	Yes	Yes	Yes	
Chlorinated Hydrocarbons and Solvents	Yes	Yes	Yes	Potential, from historical tannery located at the site.
Pesticides/Herbicides	Yes	Unlikely	-	Potentially, from the former tannery.
Polychlorinated Biphenyls	Yes	Unlikely	-	Potentially, from the former tannery.
PFAS	Yes	Yes	-	Potentially present due to long-term industrial land use in the 1960s (up to 1967) when PFAS chemicals were first used in Australia, and historical tannery present at the site.
Dioxins	No	-	-	Unlikely, no incineration sources at the site or immediate surroundings.
Phenols	Yes	Yes	-	Potentially present due to long-term industrial land use, and historical tannery present at the site.
Nutrients	Yes	-	-	From former landfilling in neighbouring land (St Lukes Oval, South)
Pathogens	No	-	-	Unlikely, no sources identified onsite.
Cyanide	Yes	Yes	-	Potential, from historical tannery located at the site.
Dyes	Yes	Yes	-	Potential, from historical tannery located at the site.





Contaminants	PCoC Soil	PCoC Water	PCoC Vapour/Gas	Comment
Sulphides, ammonia/nitrogen	Yes	Yes	-	Potential, from historical tannery located at the site.
Chloride	Yes	Yes	-	Potential, from historical tannery located at the site.

#### 6.2 Soil Regulatory Assessment Criteria

The soil analytical summary tables were assessed based on the site's public recreational setting and contaminants of concern from the past uses of the site and surrounding areas as landfill. The relevant screening criteria are taken from the NEPM ASC 2013, with the applicable Tier 1 screening criteria including the following:

- Health Investigation Limits (HILs) C-Recreational (NEPM ASC Schedule B1, Table 1A(1) Health investigation levels for soil contaminants). These are generic limits and apply across Australia to all soil types, generally to a depth of 3 m below surface;
- Health Screening Levels (HSLs) C-Recreational (NEPM ASC Schedule B1, Table 1A(3) Soil HSLs for vapour intrusion (mg/kg), clay, sand). These limits are specific to clay and sand soils at depths of 0 to 4+ m;
- Ecological investigation levels (EILs) Urban Residential/Public Open Space (NEPM Schedule B1 Tables 1 B (1) to B (5)). These levels depend on specific soil physicochemical properties and certain land use scenarios (for example, urban residential and public open space). They generally apply to the top 2 m of soil;
- Ecological Screening Levels (ESLs) Urban Residential/Public Open Space (NEPM Schedule B1 Table 1B (6)). These levels are specific to sand soils for residential use, at a depth of 0 <1 m. The trigger limits for hydrocarbons have been assessed;</li>
- Asbestos in Soil (HSL) C–Developed Open Space/Public Recreational (NEPM Schedule B1, Table 7). Health screening levels for asbestos in soil, which are based on scenario-specific likely exposure levels, are adopted from the Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (WA DoH 2009) guidelines;
- Management Limits Residential, Parkland and Public Open Space (NEPM Schedule B1, Table 1B(7) Management Limits for TPH fractions F1-F4 in soil). These values provide interim screening levels as Tier 1 guidance for residual petroleum hydrocarbon contamination; and
- CRC Care Ecological Guidelines Urban Residential and Public Open Space (CRC Care 2017, Technical Report No. 39, Table 11). Higher reliability derived ecological guidelines for fresh B(a)P in soils.





#### 6.3 Groundwater Assessment Criteria

The groundwater Analytical Summary Tables were assessed based on the site's current public recreational setting. The relevant screening criteria are taken from the NEPM ASC and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) 2018. The relevant screening criteria include:

- Groundwater investigation levels (GILs) Freshwater and Marine waters (NEPM 2013 Schedule B1, Table 1C Groundwater Investigation Levels (GILs)). These investigation levels apply to typical slightly-moderately disturbed systems;
- Groundwater Health Screening Levels (HSLs) for Vapour Intrusion B Public Recreation/Open Space (NEPM 2013 Table 1A (4) Groundwater HSLs for vapour intrusion). The underlying soil type at the site was predominantly clay; and
- Trigger Values for 95% protection of species Freshwater and Marine waters (ANZG 2018). The trigger values apply to typical moderately disturbed ecosystems.

In addition, groundwater hydrocarbon concentrations of hydrocarbons were compared to solubility limits:

Solubility limit - (NEPM ASC Schedule B1, Table 1A(4) Groundwater HSLs for vapour intrusion (mg/kg), clay). Solubility limit is the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. A concentration of a contaminant above this limit will indicate the presence of residual product and light non-aqueous phase liquid (LNAPL) is likely to be present.

# 7 Sampling, Analysis and Quality Plan (SAQP)

The objective of the SAQP is to describe the sampling, analytical and quality program (if any) undertaken during soil sampling at the site. This SAQP was developed before fieldwork.

## 7.1 Objectives

The project objectives are provided in Section 2.1 of this report.

#### 7.1.1 SAQP Objectives

The objective of this SAQP is to outline the data collection activities undertaken to assess accessible soil at the site.

Specifically, this SAQP:

- describes the rationale and data quality objectives for the proposed sampling program;
- specifies the proposed human health, risk and infrastructure criteria;
- outlines the field methodologies for sample collection;





- specifies key analytical considerations;
- specifies the quality assurance and quality control (QA/QC) program; and
- identifies assessment criteria and data quality objectives and indicators that help assess the reliability of the data collected.

## 7.2 Data Quality Objectives (DQOs)

The data quality objectives (DQOs) adopted for the DSI are detailed in the table below. A comprehensive assessment of the data quality indicators (DQIs) relating to both field and laboratory procedures has been undertaken and detailed in this DSI, including aspects detailed further below.

Table 7: Data Quality Objectives - 7 Step Process

IUL		Objectives – 7 Step Process
	Step	Information
1	State the problem	The current status of the site regarding contamination is unknown and the client wishes to investigate the potential type and nature of soil contamination to determine the risks to be managed during and after development construction and the planned continued use as a secondary school.
2	Identify the decision/ goal of the study	Does any onsite contamination pose a risk to human health or ecological surroundings/receptors?  Is the site suitable for the proposed future use?  Is remediation required to make the site a suitable level of contamination risk?  Are additional management measures required during site development?
3	Identify the information inputs	Available historical searches, federal, state government and local Council information relevant to the site reviewed to identify potential contamination sources.  Site observations and discussions with other authorised parties who may provide anecdotal information relating to the history of the site.  Site layout plans.  Soil sampling across the site and near potential contamination sources at the site.
4	Define the boundaries of the study	The site boundary is presented in Figure 2. The depth boundary for soil sampling was a maximum of 7.5 mbgs. Constraints within the study boundaries – the following issues may present limitations upon the sampling strategy for the site:  refusal on rocks and bedrock for the drilling auger and hand auger; areas where underground services may be identified on DBYD plans were avoided; and buildings and new construction areas that could not be damaged.
5	Develop the analytical approach	Completion of data quality review of the sample data to assess the validity of reported analytical results.
6	Specify performance or acceptance criteria	Evaluation of whether DQOs have been achieved using a range of QA/QC procedures and results. These procedures assess the usability of the data, particularly with regards to data accuracy and reliability for forming conclusions and are undertaken in general accordance with guidance provided within Australian Standards, the NEPM, and by the United States Environmental Protection Agency (USEPA).  The potential for significant decision errors is minimised by:  completion of a robust QA/QC assessment of the field and laboratory data and application of the probability that 95% of data satisfies the DQIs, therefore a limit on the decision error is 5% that a conclusive statement may be incorrect;  assessment of whether appropriate sampling and analytical density for the purposes of the assessment has been applied;  ensuring that the criteria set for the assessment works are appropriate for the proposed use of the site; and  completion of a data validation checklist with specific acceptance criteria and discussion of results provided within this investigation report.
7	Develop the plan for obtaining data	Soil sampling by hand auger and drilling auger across the site and installation of groundwater monitoring wells. Groundwater sampling by low flow methods. Collection of sixteen soil samples from fifteen targeted locations to various depths and three groundwater samples from the three installed groundwater monitoring wells onsite.





## 7.3 Data Quality Indicators

An assessment of the DQIs relating to both field and laboratory procedures has been undertaken with appropriate documentation provided for each environmental element or media assessed. The DQIs adopted for the SAQP are summarised in the table below.

**Table 8: Data Quality Indicators** 

DQI	Information	
-	mormation	
QA Documentation	Provision of appropriate work plans, SAQP and DQO defined for the site and all QA/QC aspects documented.	
Bias	Measure of the potential distortion in an analysis which can result in errors in one directi (e.g. one laboratory with consistently higher results or consistent poor spiked matrix recovery Bias will be assessed with reference to the analysis of spiked matrix samples (NEPC 2013).	
Representativeness	A qualitative measure of the confidence that data is representative of each medium present on the site. Use of appropriate and documented sampling methods, sampling handling, preservation and transport and holding times.	
Precision	A quantitative measure of data variability or reproducibility measured by the calculation of % Relative Percent Difference (RPD) values for duplicate samples (i.e. a measure of agreement). Precision in DQIs is considered an important assessment in an environmental study. It can be measured as follows:  • percentage of the mean of the measurement such as Relative Percent Difference (i.e. %RPD). The %RPD will be calculated for the field and secondary duplicate (i.e. inter and intra-laboratory analysis); and  • use of similar analytical methods and instruments (e.g. for inter-laboratory assessment).  The % RPD will be considered acceptable if the values are less than 30% (NEPC, 2013). Should there be a result that is greater than 30% difference, then a "review should be	
	conducted of the cause (e.g. instrument calibration, appropriateness of method used, volatile hydrocarbon consideration, contaminant bound)" (NEPC, 2013). For the purpose of this SAQP, primary field and secondary field duplicates should be collected at a rate of 1 in 20 samples (NEPC, 2013).	
Accuracy	A quantitative measure of the closeness of data to a 'true value', measured by the analysis of spike, blank and laboratory control samples. The laboratory control samples consist of standard reference material or a matrix of known concentrations. For the purpose of assessing accuracy it is required that at least one laboratory control sample for each process batch be analysed (NEPC, 2013).	
Comparability	A qualitative measure of the confidence that data may be considered to be equivalent for each sampling and analytical event. By use of standard procedures, comparable methods, qualified personnel and review of sample integrity.	
Completeness	A measure of the amount of usable data (expressed as a percentage - %) from a data collection activity, based on completeness of the test program, overall QA/QC completeness and validity of the dataset.	

## 7.4 Soil Sampling Method

The soil sampling fieldwork was conducted on 20 and 21 June 2022. Groundwater sampling was completed on 28 June 2022. The scope and method of the work is summarised in Section 7.4. Sample locations were selected based on a review of historical aerial photographs and proposed future development onsite.





**Table 9: Data Quality Indicators** 

Activity	Information	
Service Location	Services were identified on the site and bore locations were cleared by a Telstra accredited underground services location company.	
Sample Method	Soil samples were collected by either using a hand auger or solid flight auger from a vehicle-mounted drilling rig. Fresh soil was removed from the Auger by hand (with a nitrile glove) and placed directly in soil jars.	
Sample Locations	Soil sample locations were selected based on both spread across the site and targeted soil locations. The NSW EPA Sampling Design Guidelines (NSW EPA, 1995) indicate that for a 3.38 Ha site investigation that 44 sampling points are recommended for 95% confidence of detecting contamination in a circular hotspot. However, due to the substantial building footprint area preventing sampling in those locations, and a targeted result using information collected during the PSI, 18 locations were selected across the site.	
Sample Depths	Sample boreholes were drilled to a maximum depth of 7.5 mbgs for the installation of monitoring bores.	
Sampling	Soil samples were collected from shallow fill below the surface and from deeper natural soil where bore depth penetrated the natural soil.  One groundwater sample was collected per monitoring well at least one week after well installation.	
Decontamination Procedure	The drilling augers and the hand auger were decontaminated between each sample location by brushing off the soil.  A rinsate blank was collected each day during soil sampling by rinsing deionised water over the auger after decontamination using Liquinox.	
Soil Screening	PID screening was undertaken on all soil samples.	
Sample Preservation and Transport	Samples were stored on ice, in an esky while on-site and in transit to the laboratory under Chain of Custody (COC) documentation.	

#### 7.4.1 Well Installation and Development Method

The groundwater well installation occurred directly after the completion of soil borehole drilling. The table below details the specific methodology for the well installation and development.

**Table 10: Groundwater Well Installation Method** 

Activity	Details	
Well Construction	The well was constructed with 50 mm diameter, class 18 uPVC screen and casing. The top of MW03l was limited to 0.15 mbgs to enable a gatic cover to be installed around the well flush aligned with the gravel ground surface, and MW01 and MW02 were installed with standpipes and monuments above the surface. A filter pack comprising clean graded sand of suitable size to provide sufficient groundwater inflow was installed within the annular space between the borehole and the well casing. The filter pack was extended from the base of the screened interval to at least 0.4 m above the level of termination of the slotted casing. In order to minimise the likelihood of surface water or perched groundwater infiltrating the aquifer, a bentonite plug, comprising pelleted or granulated bentonite, was placed above the filter pack to a minimum thickness of 0.3 m.  Grout was placed above the bentonite to seal the bore and a flush-mounted gatic cover was placed in the cement mix to complete the wellhead to the surface.	
Well Development	In order to ensure interconnection between the aquifer and the well, and to remove drilling fines from the gravel pack and well, wells are developed by purging until purged dry, using a steel bailer in accordance with guidance used from the Minimum Construction Requirements for Water Bores in Australia, 3r Edition (NUDLC, 2012).	
Well Surveying	Well surface elevation and coordinates were approximated for each well during the well installatio process using regional topographic maps and GPS data.	
Waste Disposal	Soil from soil bores was reverse augered/backfilled in a similar geological layering from which it was excavated. Excess excavated soil during drilling of the monitoring well bores was placed in a skip bin. Waste classification indicated the minor quantity of soil (0.1 tonnes) was clean and not contaminated and was suitable for reuse onsite, and was disposed of along with other construction excavated material at the site.	





#### 7.4.2 Groundwater Sampling Method

Groundwater sampling fieldwork was conducted on 28 June 2022. The table below details the specific methodology for the groundwater investigation sampling.

**Table 11: Groundwater Sampling Method** 

Activity	<b>Details</b>
Timing of Sampling	Initial gauging and sampling of groundwater wells were undertaken seven days after the completion of well installation.
Well Gauging	All wells were gauged for standing water level (SWL) using an air, oil, water interface probe prior to collection of samples.
Sampling Method	Wells were sampled using dedicated HDPE tubing, 'medical grade' silicone tubing and a 'low flow' peristaltic pump. Field parameters including temperature, electrical conductivity, oxidation-reduction potential (ORP), dissolved oxygen, and pH was measured and recorded for each well prior to purging using a calibrated water quality meter. The groundwater was visually assessed for turbidity and evidence of contamination such as odour or visible hydrocarbon sheen.  All water samples were field filtered through 0.45 µm filters for dissolved heavy metal analysis.
Purged Water	Water purged during low flow sampling was returned into the wells from which they originated after sampling.
Sample analysis	Three primary groundwater samples were submitted to Eurofins for analysis, which is NATA accredited for the analyses performed.
Sample Preservation	All samples were collected in bottles supplied by the primary laboratory containing the appropriate preservatives (where required). All samples were stored on ice in an insulated esky immediately after sampling. Samples were kept chilled prior to and during delivery to the laboratory.
Decontamination Procedure	During the investigation works the following equipment was decontaminated using Liquinox detergent:  water quality meter; interface probe; and buckets used to contain water for water quality meter reading.  Decontamination procedures were performed before initial use and after each subsequent use as follows: a new pair of disposable nitrile gloves were worn to collect each sample. As such no other decontamination procedures were considered to be necessary for soil sampling; new disposable 0.45µm filters were used for dissolved metals sample collection; and the interface probe was decontaminated between each sample location by scrubbing with a solution of Liquinox (a PFAS and phosphate-free detergent) followed by a rinse in potable water.  Following decontamination procedures, at the designated sample locations, a rinsate blank was collected by running laboratory-prepared deionised water over a piece of decontaminated sampling equipment directly into laboratory-prepared sampling containers for analysis of contaminants for concern.
QA/QC Samples	Field blank samples (rinsate and trip blank), field duplicate groundwater samples were collected during the groundwater sampling event.

Soil and groundwater sample locations were selected throughout the site to assess the impacts resulting from previous site activities and general areas across the site. The rationale for investigation locations is outlined in the table below. Sample locations are presented in Figure 4.

**Table 12: Sample Locations** 

Location	Sample Type	Locations	Basis
Shallow soil across the site	Soil samples	All sample locations are presented in Figure 4.	To assess any potential contamination associated with the underlying fill material at the site that may be disturbed during construction.
Deeper soil across the site	Soil and groundwater samples	All locations are presented in Figure 4, including deeper drill soil bores and well bores	To assess the depth of any contamination from fill and depth of fill, and to detect any historical contamination associated with the former site use as a tannery.





Location	Sample Type	Locations	Basis
			Tannery footprints and ponds observed in the historical aerial photos (iEnvi, 2022) were also targeted.
Eastern portion of site - potential ASS area	Soil and groundwater samples	Sample locations on and near the area of site overlapping Acid Sulfate Soil Class 2 (refer to Figure 4).	To determine if acid sulfate soil is present and would require management in this portion of the site. Groundwater samples also to detect the presence of elevated metal concentrations that may indicate impacts from leaching caused by ASS.
Former tannery tank area	Soil and groundwater samples	BH07, MW03 (refer to Figure 4).	To identify potential residual contamination from a range of PCoC associated with tannery use.
Former tannery 'liquor' effluent area in east	Soil and groundwater samples	MW03, MW02, BH12, BH14, BH13, BH15 (refer to Figure 4).	Historical ponds and areas of white clay noted in historical records to contain tannery 'liquor'.
General groundwater condition	Groundwater samples	MW01, MW02, MW03 (refer to Figure 4).	Locations were selected on, downgradient and adjacent to identified former tannery features.

The fieldwork was undertaken by experienced environmental scientists in accordance with the agreed scope of work and methods.

### 7.5 Laboratory Analysis

Soil and groundwater samples were submitted to Eurofins Environmental Testing (primary and field duplicate) located in and ALS Laboratories (field triplicate) located in Melbourne, Victoria which utilised NATA-accredited analysis methods for the parameters tested. Copies of the NATA stamped laboratory reports, Chain of Custody (COC) and sample receipt records are included in Appendix I. Tabulated laboratory results are in the Analytical Tables attachments, and the testing program is summarised in the table below.

**Table 13: Laboratory Testing Program** 

Location	Primary Sample Location/Depth (mbgs)	Laboratory Report(s)	Analyses
Shallow soil /fill across the site	All shallow soil samples < 0.5 mbgs depth from all bores (BH01/0.2, BH02/0.2, BH03/0.2, BH04/0.2, BH05/0.2, BH06/0.2, BH07/0.2, BH08/0.2, BH09/0.2, BH10/0.2, BH11/0.2, BH12/0.2, BH13/0.2, BH14/0.2, BH15/0.2, MW01/0.2, MW02/0.2, MW03/0.2)	901484	asbestos; TRH/TPH, BTEXN, PAH, PCBs, phenols, metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), iron, hexavalent chromium, PFAS short suite, inorganics (conductivity, nitrite + nitrate as N, ammonia as N, CEC, chloride, cyanide total, total Kjeldahl nitrogen, nitrogen (total), pH, TOC), solvents (2-butanone (MEK) and 2-propanone (acetone)), semi-volatile chlorinated hydrocarbons (CH), halogenated benzenes
Former Tannery/ Deeper soil across the site (short suite)	BH14/1.0, BH11/2.5, BH12/2.5, BH13/2.5, MW03/4.5	901484	TRH/TPH, BTEXN, PAH, phenols, metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), hexavalent chromium, semi-volatile chlorinated hydrocarbons (CH), halogenated benzenes
Former Tannery/ Deeper soil across the site (long suite)	BH15/2.0, MW01/4.5, MW02/4.5	901484	TRH/TPH, BTEXN, PAH, PCBs, phenols, metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), hexavalent chromium, inorganics (nitrite + nitrate as N, ammonia as N, chloride, cyanide total, total Kjeldahl nitrogen, nitrogen (total)), solvents (2-butanone (MEK) and 2-propanone (acetone)),





Location	Primary Sample Location/Depth (mbgs)	Laboratory Report(s)	Analyses
			semi-volatile chlorinated hydrocarbons (CH), halogenated benzenes
Eastern portion of site - potential ASS area	BH12/0.2, BH13/0.2, BH14/0.2, BH15/0.2, MW02/0.2	901484	Suspension Peroxide Oxidation Combined Acidity and Sulphur (SPOCAS)
Groundwater - general condition and Former Tannery	MW01, MW02, MW03	902403	TPH/TRH, BTEX, PAHs, PCBs, dissolved metals ( (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), hexavalent chromium, PFAS Trace LOR – 30 Compounds, Cyanide (Total), 2-Butanone (MEK) and 2-Propanone (Acetone), Semi-Volatile Chlorinated Hydrocarbons (CH), ammonia as N, chloride, cyanide, nitrogen, sulfide
Field duplicates (soil)	QS01 (field duplicate of BH01/0.2) QS01A (field triplicate of BH01/0.2) QS02 (field duplicate of BH04/0.2)	901484	asbestos, TPH/TRH, BTEX, PAHs, PCBs, phenols, metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), hexavalent chromium, PFAS short suite, cyanide (total), semi-volatile chlorinated hydrocarbons, chloride, sulphide, ammonia, total nitrogen
Field duplicates (groundwater)	QW01 (field duplicate of MW02)	902403	dissolved metals ( (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), hexavalent chromium, PFAS trace LOR – 30 compounds, PCBs, cyanide (total), 2-butanone (MEK) and 2-propanone (acetone), semi-volatile chlorinated hydrocarbons, chloride, sulphide, ammonia, total nitrogen, TPH/TRH, BTEX, PAHs, halogenated benzenes, herbicides, phenols
Waste Disposal	WC1, WC2, WC3	900777	asbestos, TPH/TRH, BTEX, PAHs, PCBs, metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)
Field blank samples (Soil Sampling)	TB01	901484	TRH(C6-C10), BTEXN plus F1
Field blank samples (Groundwater Sampling)	TB01	902403	TRH(C6-C10), BTEXN plus F1

Note: TRH = total recoverable hydrocarbons; TPH = total petroleum hydrocarbons, BTEX = benzene, toluene, ethylbenzene, xylenes; PAH = Polynuclear Aromatic Hydrocarbons; PCB = polychlorinated biphenyls; 8 metals = As, Cd, Cr, Cu, Ni, Pb, Zn, Hg; CH = chlorinated hydrocarbons; MEK = methyl ethyl ketone (2-butanone); PFAS = perfluoroalkyl and polyfluoroalkyl substance

## 7.6 Quality Assurance / Quality Assurance

A critical aspect of a soil investigation is the demonstration of the quality of the data used as the basis for the assessment. This is achieved through a Data Validation process which includes a review of the following aspects of the data collection process:

- project quality objectives and plans;
- data representativeness;
- data precision & accuracy;
- laboratory performance;
- data comparability; and
- data set completeness.

A detailed review of these aspects was undertaken, the results are presented in the section below.





# 8 Site Investigation Results and Discussion

The soil sampling fieldwork was conducted on 20 and 21 June 2022. Groundwater sampling was completed on 28 June 2022. Site photographs are provided in Appendix A.

A total of 26 primary soil samples were collected from 18 soil bore locations that were advanced across the site by hand auger and drill rig solid flight auger. Three groundwater monitoring wells were installed and sampled. All soil and groundwater samples were submitted to a NATA accredited laboratory for analysis of PCoC.

Field observations, soil bore logs and groundwater sampling logs are provided in

- Appendix D Soil Borelogs; and
- Appendix E Groundwater Sampling Sheets.

A summary of field observations is provided below.

#### 8.1 Field Observations

The sub-surface conditions encountered during the soil investigation consisted of compacted sandy/silty clay fill material, which was underlain by natural clays.

The mound at the east of the site generally consisted of sandy clay fill material underlain by natural sandy clays.

A portion of soil from each sample matrix was placed in a clean plastic sealable bag and punctured with a calibrated photoionisation device (PID) to measure headspace volatile aromatic hydrocarbon concentrations in accordance with the SAQP (refer to Appendix D for bore log records and Appendix H for the field instrument calibration certificates).

The observed soil conditions are presented in soil logs included in Appendix D. The soil can generally be described by the following soil profile:

- 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and
- > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL.

Indicators of acid sulfate soils were not observed during sampling. Some foreign materials, brick etc were observed in some of the fill at the east of the site, however, no suspected ACM was visually observed.

No odours or staining was observed in any of the soil at the site.

Groundwater observations and water quality measurements were presented in Appendix E Groundwater Sampling Sheets.

Groundwater was observed at approximately 5 mAHD at the site or approximately 1.5 mbgs to 3.0 mbgs in level areas of the site.





No odours or discolouration indicating contamination were observed in groundwater at the site.

Refer to Appendix E Groundwater Sampling Sheets for groundwater sampling records and gauging information, and Appendix H for equipment calibration records.

# 8.2 Site Investigation Results, Conceptual Site Model (CSM) and Results Discussion

The table below summarises key results, the CSM and a discussion of the results. Laboratory analytical results are also summarised in the table below, and presented in Analytical Tables 1 to 15. Exceedances of Tier 1 criteria are illustrated in Figure 5.





Table 14: Site Investigation Results, Conceptual Site Model (CSM) and Results Discussion

Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
Asbestos	Shallow fill soil near Stanley St pedestrian entrance (BH07 sample location) above health screening level criteria. Potentially in other areas of shallow fill across the site but not detected unless using trench/test pit sampling method. Likely in the mound at the eastern boundary of the site.	Soil ACM Detected above HSL criteria w criteria in BH07/0.2 (0.038%) - chrysotile and crocidolite asbestos detected in a fibre cement fragment.	N/A	Imported fill or historical demolition waste.	Disturbance with machinery and then dust/air inhalation.	Workers and humans at the site and near the eastern boundary of the site who are involved in disturbing soil (i.e. construction workers and maintenance workers).	No asbestos was visually identified during sampling at the site. Only one ACM fragment (bonded) was detected in sample BH07, near the southern pedestrian entrance near Stanley Street above health criteria. Previous investigations have detected additional asbestos at the site, and test pitting/ trenching sampling methods may find more. The site currently has an ASSMP which should be followed and ensure gardeners and maintenance/construction workers are aware of health management protocols when undertaking works at the site.	Update the 2020 asbestos register now that earthworks and upgrades have been completed in the Tiger Turf field construction. Ensure compliance with the requirements including inspections are recorded and maintained relating to the eastern portion of the site. Due to the presence of ACM (above HSL criteria) detected in BH07 at the pedestrian entrance area on Stanley Street, ensure revisions to the asbestos management relate to disturbance of soil across the entire site as a precaution. This is due to the uncertainty in sampling using boreholes and not collecting bulk soil samples that would be collected with test pits and the heterogeneity of fill.  Ensure an asbestos management plan is incorporated specifically for the construction phase of development and all construction and maintenance workers are inducted into the plan.
PAHs	In shallow fill in several locations across the site. Also found in deeper fill (1.0 mbgs) to the east in BH14. Below detection in groundwater.	Nil	Soil Benzo(a)pyrene BH01 / 0.2 (9.6 mg/kg) BH02 / 0.2 (9.3 mg/kg) BH07 / 0.2 (1.3 mg/kg) BH14 / 0.2 (6.3 mg/kg) BH14 / 1.0 (3.2 mg/kg)	Imported fill.	Potential to leach into groundwater not demonstrate dd. Potential uptake into plants likely limited by age of contaminant.	Low risk	Benzo(a)pyrene (BaP) was detected in fill soil above ecological criteria (ESL) in several locations. No other PAHs exceeded Tier 1 criteria. No BAP concentrations were detected in groundwater indicating the mobilisation of BaP from fill soil is likely low. Low concentrations of BAP are common in historical fill in some areas of Sydney.	No actions required.





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
Petroleum Hydrocarbons	In the recreational area to the west in shallow soil (this may be from imported fill or organic material), BH14 is downstream of the tannery operations and it may indicate impact from there. No edible plants bearing fruit were observed in either location. Concentrations detected in groundwater in MW02, downgradient of the former tannery operations at the east of the site.	Low risk.	Soil C10-C16 and F2 BH01 / 0.2 BH03 / 0.2 C16-C34 BH14 / 1.0	Imported fill. Historical tannery operations in BH14.		Stormwater Canal (150 m from site, is considered low risk)	No odours, staining or significant PID readings that would indicate the presence of volatile hydrocarbons were detected in soil at the site. Some soil sample TRH F2 fractions exceeded ESLs. The source of these hydrocarbons may be from older tannery operations oils, solvents, and petroleum use, and may be from fill at the site. The ecological criteria exceedances in soil are not considered significant or a risk requiring action. No soil or groundwater hydrocarbon concentrations exceeded Tier 1 health risk criteria.	No actions required.
Chlorinated Hydrocarbons/ Solvents/ PCBs	Nil	Nil	Nil	-	-	-	No detections in soil or groundwater.	No actions required.
Phenols and Herbicides	Nil	Nil	Nil	-	-	-	No detections in soil or groundwater.	No actions required.





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
PFAS	MW03 groundwater - located at the south of the site in the car park area. No detections in soil.	Nil	Soil Not detected. Groundwater Perfluorooctanes ulfonic acid (PFOS) MW03 (0.00018 mg/L) marginally above Freshwater and Marine PFAS NEMP 2.0 criteria.	Former use in tannery. Fire fighting foam used in any historical fires near MW03 at the school or adjacent.	Groundwater migrating to offsite surface water bodies	Freshwater ecological receptors are considered likely minimal in the stormwater canal (150 m east of the site). Marine water ecological receptors in Parramatta River 600 m NE of the site, are considered unlikely due to the downgradien t well MW02 containing no detected PFOS concentrations.	PFAS concentrations were not detected in soil. Low level detections of PFAS were observed in all groundwater samples. PFAS containing products were used in tannery practices toward the end of the site's former tannery operations, and the source of PFASs may be historical tannery sources, or due to the long persistence time in the environment, the concentrations may have migrated from offsite sources. The contamination is considered unlikely to migrate to human receptors in the area due to no groundwater extraction being likely, however the stormwater canal 150 m east of the site and Parramatta River 600 m north east of the site are considered potential ecological receptors. PFOS exceeded PFAS NEPM 2.0 Tier 1 criteria in well MW03 only, however the quality sample QW01 (duplicate of MW02) contained PFOS concentrations equal to the ecological criteria Potential historical fire events where fire fighting foams were used at the school should be also be investigated as a potential source. As the exceedance was not detected in all groundwater at the site, the ecological risk is considered moderately low to offsite ecological receptors, however this should be confirmed with additional sampling round. PFAS cross contamination is a high risk when sampling, and so additional samples and duplicate samples are recommended to confirm the result in MW03 which is only marginally above ecological Tier 1 risk criteria and the concentrations in MW02.	Resampling all wells due to the potential for cross contamination and to confirm low level PFAS results. Determine if any significant historical fire events were recorded in the vicinity of MW03 where firefighting foams may have been used. No soil PFAS impacts were detected, however detection limits were higher than those used for groundwater.





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
Heavy Metals	Soil Lead and arsenic detected in soil above human health risk criteria.  Lead was detected marginally above human health risk criteria in shallow fill in one location BH01 which is located in the lunch fields at the west of the site that will not be disturbed during development construction works. Note this was the only locations where there was a minor exceedance and the risk is therefore considered low for lead in shallow fill to human health.  Arsenic was detected at 2.5 m in BH11 (located at the south east of the site near MW01) above the tier 1 health risk criteria for soil. Noting there is limited chance for access to deep soil, this is unlikely to cause any immediate health risk. Arsenic was detected in groundwater in MW01 and downgradient well MW02, and is likely associated with groundwater and not a risk to the surface.  Groundwater  All wells contained heavy metals that exceeded freshwater and marine water	Soil Lead Residential HIL A - BH01/0.2 (310 mg/kg) Arsenic Residential HIL A - BH11/2.5 (140 mg/kg)	Soil Below ecological criteria  Groundwater NEPM GILs for both fresh and marine waters and ANZG 2018 95% DGV for fresh and marine waters for the following metals: Copper MW01 (0.004 mg/L) MW02 (0.002 mg/L) MW03 (0.006 mg/L) Mercury MW01 (0.001 mg/L) Nickel MW01 (0.014 mg/L) (likely similar to background levels) Zinc MW01 (0.064 mg/L) MW02 (0.086 mg/L) MW02 (0.086 mg/L) MW03 (0.030 mg/L)	Tannery, aquifer geology (background concentratio ns)	Groundwater, seepage to stormwater and discharge to Parramatta River	Freshwater ecological receptors are considered likely minimal in the stormwater canal (150 m east of the site). Marine water ecological receptors in Parramatta River 600 m NE of the site.	No soil sample metal concentrations exceeded the site use health HIL C criteria, however two locations BH01/0.2 (lead) and BH11/2.5 (arsenic) exceeded residential (HIL A) criteria. BH01 is in a location near offsite residential receptors, unlikely to be disturbed during construction and covered in grass and is considered low risk and the elevated concentration was not detected in nearby bore samples.  Groundwater dissolved metals exceeded freshwater and marine water ecological criteria for copper, mercury, nickel and zinc. Copper and zinc metal concentrations may be partly associated with background concentrations. Metals impacts to the subsurface may be associated with the former tannery use of the site.	Offsite drilling downgradient of wells and hydrogeological study to determine groundwater flow and risk to potential ecologocal receptors from various groundwater impacts observed in MW02 and dissolved metals in all wells.





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
	ecosystems, however background levels of copper, nickel and zinc are likely contributing.							
Hexavalent Chromium (Cr6+)	No detections in soil. Detected in groundwater in MW02 (downgradient, in east of site) above both freshwater and marine water ecosystem criteria.	Nil	Soil Not detected.  Groundwater NEPM GILs for both fresh and marine waters and ANZG 2018 95% DGV for fresh and marine waters. MW02 (0.024 mg/L)	Historical tannery use of chrome.	Groundwater , seepage to stormwater and discharge to Parramatta River		Hexavalent chromium was not detected in any of the soil samples. Dissolved hexavalent chromium concentrations were only detected in groundwater in MW02. The concentration detected in MW02 exceeded freswhater and marine water ecological Tier 1 risk criteria.	Offsite drilling downgradient of wells and hydrogeological study to determine groundwater flow and risk to receptors from impacts observed in MW02.





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
Inorganics (ammonia, chloride, cyanide, nitrogen, sulphide)	Groundwater ammonia is elevated and this is in the downgradient well MW02. This has potential (noting also sulphide levels are elevated at this depth) to pose an ecological risk to downgradient receptors.	Nil	Soil Below ecological criteria  Groundwater NEPM GILs for both fresh and marine waters and ANZG 2018 95% DGV for fresh and marine waters for the following ammonia. Ammonia MW02 (8,700 µg/L)  Other Nitrogen Elevated 18 mg/L of nitrogen in groundwater in downgradient well MW02 - no criteria but this may be indicative of historical impact to groundwater in this location.	Historical tannery wastewater/ liquor.	Groundwater , seepage to stormwater and discharge to Parramatta River	Freshwater ecological receptors are considered likely minimal in the stormwater canal (150 m east of the site). Marine water ecological receptors in Parramatta River 600 m NE of the site have potential risk from stormwater and direct groundwater flow.	Ammonia concentrations were only detected in MW02, and MW02 exceeded freswhater and marine water ecological Tier 1 risk criteria. The elevated ammonia and nitrogen levels in downgraident monitoring well MW02 (and other impacts) may require further offsite investigation and risk assessment.	Offsite drilling downgradient of wells and hydrogeological study to determine groundwater flow and risk to receptors from various impacts observed in MW02.
Acid sulfate soil (ASS; SPOCAS)	No exceedances in shallow soil investigated that may be disturbed during excavation.	-	Nil	Naturally occuring.	Deep excavation.	If disturbed, metals may release into groundwater.	No detections of potential or actual acid sulfate soils that may require liming treatment in shallow soils. Likely to be present in deeper soils if excavation extends into natural soil (approximately 3.2 mbgs in MW02).	No action required, however an acid sulfate soil management plan (ASSMP) should be prepared if deep excavation in the east of the site is to occur during development construction).





Contaminant	Exceedance Location(s), Distribution and Matrix	Tier 1 Health Risk Criteria Exceedances	Tier 1 Ecological Risk Criteria Exceedances	Potential Source	Potential Pathway	Potential Receptors	Results Discussion	Recommended Actions
Fill	Fill soil was identified in locations across the site.  Deeper bores delineated fill as follows:  - 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and - > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL.	Nil	-	Imported soil, historical demolition debris.	Excavation/d isturbance of soil	Workers and humans at the site and near the eastern boundary of the site who are involved in disturbing soil (i.e. construction workers and maintenance workers).	Fill quality varied across the site with some asbestos detected in one location and foreign material/ builders waste observed in the north east of the site and likely along the eastern site boundary.	Update the 2020 asbestos register now that earthworks and upgrades have been completed in the Tiger Turf field construction. Ensure compliance with the requirements including inspections are recorded and maintained relating to the eastern portion of the site. Due to the presence of ACM (above HSL criteria) detected in BH07 at the pedestrian entrance area on Stanley Street, ensure revisions to the asbestos management relate to disturbance of soil across the entire site as a precaution. This is due to the uncertainty in sampling using boreholes and not collecting bulk soil samples that would be collected with test pits and the heterogeneity of fill.  Ensure an asbestos management plan is incorporated specifically for the construction phase of development and all construction and maintenance workers are inducted into the plan.





# 8.3 Quality Results Summary

A summary of the field and laboratory data quality indicators and performance is summarised below in the table below. Laboratory analytical certificates are provided in Appendix I. Analytical Tables 13 to 15 containe a summary of duplicate sample and field blank quality results.

**Table 15: Data Quality Indicators and Performance** 

Data Quality Indicator	Sampling Frequency Required	Frequency Achieved?	Data Quality Indicator (DQI) – acceptability limit	95% of data quality objective (DQO) met?
Precision	rtequired		acceptability illinit	
Field duplicates (intra & interlab)	(>=10%) total	Yes, 26 primary soil samples, and 3 replicates. 3 primary groundwater samples, and 1 replicate. Total = 13.89%.	<=30% RPD (50% for organics) or <5x LOR	Soil No, just below DQO. Main exceedances were for PAHs and TRH/TPH. Total RPD Comparisons: 294 # RPD >30% inorganic: 6 # RPD >50% organic: 11 Total RPDs Exceeding: 17 % Acceptable RPDs: 94.22%  Groundwater No. Just below DQO. Several PFAS compounds exceeded RPD at ultra low concentrations. Risk of cross-contamination should be considered for PFAS groundwater.  Total RPD Comparisons: 133 # RPD >30% inorganic: 8 # RPD >50% organic: 0 Total RPDs Exceeding: 8 % Acceptable RPDs: 93.98%
Laboratory duplicates	1/20	Yes	<=30% RPD	Soil 901484 All passed with exception of laboratory duplicates of samples: BH01/0.2:
Laboratory method blanks	1 per batch	Yes	< LOR	Soil 901484 All passed.  Groundwater 902403 All passed.
Accuracy				





Data Quality Indicator	Sampling Frequency Required	Frequency Achieved?	Data Quality Indicator (DQI) – acceptability limit	95% of data quality objective (DQO) met?
Laboratory matrix spikes	1/20	Yes	70 to 130%	Soil 901484 All passed.  Groundwater 902403 All passed.
Laboratory control samples	1/20	Yes	70 to 130%	Soil 901484 All passed.  Groundwater 902403 All passed.
Representativeness				
Sampling handling storage and transport appropriate for media and analytes	-	-	Yes	Samples chilled and transported in accordance with COC requirements.
Trip blank	1 per esky container	Yes	<lor< td=""><td>Yes.</td></lor<>	Yes.
Rinsate blank	1 per day	No	<lor< td=""><td>Yes.</td></lor<>	Yes.
Samples extracted and analysed within holding times.	-	Yes	Per lab requirements (Appendix I)	Yes.
Comparability				
Standard operating procedures used for sample collection and handling (including decontamination)	All Samples	-	Yes	All sampling completed in accordance with iEnvi standard operating procedures. New sampling equipment and sampling gloves used for each sample. Soil samples were screened using a PID. Soil PID results are presented in Appendix D. Groundwater samples water quality information is provided in Appendix E. Calibration Certificates are provided in Appendix H.
	Collection of Field Blanks	Yes	Frequency achieved, <lor< td=""><td>Yes</td></lor<>	Yes
Standard analytical methods used for all analyses	All Samples	-	Yes	NATA accredited methods used for all analyses (Appendix I).
Consistent field conditions, sampling staff and laboratory analysis	All Samples	-	Yes	All fieldwork completed by qualified staff. All laboratory analysis completed by NATA accredited laboratory (Appendix I).
Limits of reporting appropriate and consistent	All Samples	-	Yes	Yes
Completeness				
COC completed and appropriate	All Samples	-	Yes	See COCs in Appendix I.
Appropriate documentation	All Samples	-	Yes	See Appendix I.

Overall, the data quality objectives were met during the investigation, as demonstrated throughout this report. While field duplicate RPDs were overall marginally below 95% acceptable, the RPD exceedances were generally for hydrocarbon contaminants not of concern in soil.





PFAS ultra low groundwater concentrations did exceed RPDs for several PFASs, including PFOS, with non detect in MW02 detected at 0.00013 mg/L equal to ecological criteria in duplicate samples MW03.

Documentation was maintained, and complete, sufficient data was collected to characterise the site in accordance with statutory requirements. The data has been shown to be comparable and representative of the site, and precision and accuracy has been demonstrated in the field QA/QC programs.

The RPD values for soil quality control samples are elevated for metal concentrations, likely owerd to the heterogeneity in the soil sample. However, over 95% of the RPD values still met the DQO.

The overall data quality performance against DQIs indicates that the analytical data is representative of site conditions at the time of the investigation as well as suitable to enable valid assessment of the site.

This report was created in accordance with the Consultants reporting on contaminated land. Contaminated land guidelines (NSW EPA, 2020), stage checklist Table 2.3 Detailed Site Investigation. A copy of the checklist completed is provided in Appendix F.

## 8.4 Data Gaps

The following areas were not able to be investigated and represent data gaps in this investigation:

- areas beneath the buildings at the site could not be accessed for soil sampling, however, the overall characterisation of shallow soil/fill can be interpreted from the extensive fill sampling across the site and further managed during construction under a construction environmental management plan (CEMP), and therefore the building footprints are unlikely to present a significant risk during development and construction works. The risk management for the unknown quality of soil below building footprints may be included in a construction environmental management plan (CEMP) for the site;
- natural soils were not reached in many locations across the site and the vertical extent of fill material was unable to be confirmed in many locations, however, the extent of fill across the site can be summarised as:
  - 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and
  - > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL;
- underground services were detected in locations across the site and drilling locations had
  to be shifted (refer to Appendix C Dial Before You Dig information). Additionally, some
  locations had limited access for the drill rig to access and hand auger sampling was
  completed instead, in locations that allowed minimal concrete coring and disturbance of
  the school's classrooms;



3 Stanley Street, Concord NSW 2137



• sampling by vertical boring has limitations when investigating asbestos. The extent of asbestos in fill should be considered as possible or likely to extend beyond the single identified location of BH07 in shallow soil. Furthermore, the Asbestos In Grounds Management Plan (WSP, 2020) for the site (Appendix J) indicates asbestos impacted fill is also located in the east of the site and likely present in the mound along the eastern boundary of the site.

## 8.5 Waste Spoil

Soil was returned into the ground in approximately the same sequence it was removed by reverse augering to compact the soil into its origin borehole immediately at the completion of drilling and sampling each bore location. Approximately 0.1 tonnes of excess soil from soil augering and excess purged groundwater were collected and placed in a skip bin onsite.

Analytical Table 12 contains the waste sample results. All concentrations were below NSW EPA excavated natural material order (ENM) and other waste criteria and below NEPM HIL A level criteria. This soil does not require regulation and as it is a minor amount it was included with the larger construction project.

All groundwater purged during sampling was returned to the wells from which it was extracted.

# 9 Duty to Report Contamination

A duty to report contaminated sites arises under section 60 of the *Contaminated Land Management Act 1997 (CLM Act)* where the contamination meets relevant criteria or triggers specified in a guideline. The duty may apply to a person whose activities have contaminated land or an owner of land that has been contaminated.

The Guidelines on the Duty to Report Contamination under the CLM Act provide an assessment matrix to determine the need to report contamination. In the checklist (refer Appendix I) the following outcomes were apparent.

**Table 16: Duty to Report Checklist** 

Q	Duty to Report Guidelines	Outcome
1	1.3 NSW contaminated land management framework	PROCEED TO QUESTION 1A
1A	2.5 Situations not intended to be captured by the duty to report - Your site/contamination may be exempt from the Duty to Report.	NO DUTY TO REPORT TRIGGERED. THERE IS NO NEED TO PROCEED FURTHER.
2	2.1 Duty to report	DUTY TO REPORT IS TRIGGERED!
3	2.3.1 On-site soil contamination	PROCEED TO QUESTION 4 - NO DUTY TO REPORT TRIGGERED
4	2.3.2 Off-site soil contamination	MISSING DATA
5	2.3.3 Foreseeable contamination of neighbouring land	PROCEED TO QUESTION 6 - NO DUTY TO REPORT TRIGGERED
6	2.3.4 Asbestos in, or on, soil	PROCEED TO QUESTION 7 - NO DUTY TO REPORT TRIGGERED





Q	Duty to Report Guidelines	Outcome
7	2.3.5 Groundwater or surface water	DUTY TO REPORT IS TRIGGERED!
8	2.3.6 Vapour intrusion	NO DUTY TO REPORT TRIGGERED IN THIS SECTION - PROCEED TO END OF SURVEY

The Duty to Report matrix indicated that there is a duty to report contamination to NSW EPA under section 60 of the *Contaminated Land Management Act 1997 (CLM Act)*, however, the requirement should be confirmed due to potential cross contamination by resampling wells and completing a hydrogeological study..

# 10 Conclusions and Recommendations

## 10.1 Conclusions

Based on the findings of this investigation, the following is concluded:

- based on information collected in the PSI, a total of 26 primary soil samples were collected from 18 soil bore locations that were advanced across the site by hand auger and drill rig solid flight auger. Three groundwater monitoring wells were installed and sampled;
- soil sampling fieldwork was undertaken on 20 and 21 June 2022. Groundwater sampling was completed on 28 June 2022;
- no odours or staining was observed in any of the soil at the site;
- fill soil was identified in all sample locations across the site. Deeper bores delineated fill as follows:
  - 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL; and
  - > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL.
- groundwater was observed at approximately 5 mAHD at the site, or approximately 1.5 to 3 mbgs in level areas of the site.
- no odours or discolouration indicating contamination were observed in groundwater at the site;
- the following contaminants of concern were detected in samples:
  - no asbestos was visually identified during sampling at the site. Only one asbestos containing material (ACM) fragment was detected in sample BH07, near the southern pedestrian entrance near Stanley Street above health screening level (HSL) criteria. Previous investigations have detected additional asbestos at the site, and test pitting/trenching methods may find more ACM in fill at the site. The site currently has an asbestos register and an Asbestos in Grounds Management Plan (Appendix J) which should be followed and ensure gardeners and maintenance/construction workers are aware of health management protocols when undertaking works at the site. Location BH07 and more broadly, fill across





the site, should be included as part of a revision of the Asbestos in Grounds Management Plan and site asbestos register;

- benzo(a)pyrene (BaP) was detected in fill soil above ecological screening level (ESL) criteria in several locations across the site. No other polycyclic aromatic hydrocarbons (PAHs) exceeded Tier 1 criteria. No BAP concentrations were detected in groundwater indicating the mobilisation of BaP from fill soil is likely low. Low concentrations of BaP are common in historical fill in some areas of Sydney;
- o no odours, staining or significant PID readings that would indicate the presence of volatile hydrocarbons were detected in soil at the site. No hydrocarbon concentrations exceeded Tier 1 health risks criteria at the site. Some total recoverable hydrocarbon (TRH) F2 fraction concentrations exceeded ESLs. The source of these hydrocarbons may be from older tannery operations oils, solvents, and petroleum use, and there is the potential to be derived from imported fill at the site. The ecological criteria of hydrocarbons exceedances in soil are not considered significant or a risk requiring action. No soil hydrocarbon concentrations exceeded Tier 1 health risk criteria;
  - perfluoroalkyl and polyfluoroalkyl substances (PFAS) concentrations were not detected in soil. Low-level concentrations of PFAS compounds were detected in all groundwater samples. PFAS-containing products were used in tannery practices toward the end of the site's former tannery operations. The source of PFAS may be historical tannery sources, or due to the long persistence time in the environment, the concentrations may have migrated from offsite sources. The contamination is considered unlikely to migrate to human receptors in the area due to no groundwater extraction being likely, however, the stormwater canal 150 m east of the site and Parramatta River 600 m northeast of the site are considered potential ecological receptors. Perfluorooctanesulfonic acid (PFOS) exceeded PFAS NEMP 2.0 Tier 1 criteria in well MW03 only, however, the quality sample QW01 (duplicate of MW02) contained PFOS concentrations equal to the ecological criteria representing uncertainty on the MW02 analytical result. Potential historical fire events where fire fighting foams were used at the school should also be investigated as a potential source. As the exceedance was not detected in all groundwater at the site, the ecological risk is considered moderately low to offsite ecological receptors, however, this should be confirmed with an additional sampling round. PFAS cross-contamination is a high risk when sampling and so additional samples and duplicate samples are recommended to confirm the result in MW03 which is only marginally above ecological Tier 1 risk criteria and confirm the PFAS concentrations in MW02;
- no soil sample metal concentrations exceeded the site use health (HIL C) criteria, however, two locations BH01/0.2 (lead) and BH11/2.5 (arsenic) exceeded residential (HIL A) criteria. BH01 is in a location near offsite residential receptors,





unlikely to be disturbed during construction and covered in grass and is considered low risk and the elevated concentration was not detected in nearby bore samples. The arsenic exceedence in BH11 at 2.5 m depth is isolated and unlikely to cause any human health risk to residential receptors;

- groundwater samples dissolved metals concentrations exceeded freshwater and marine water ecological criteria for copper, mercury, nickel and zinc. Copper and zinc concentrations may be partly associated with background concentrations.
   Metals impacts in the subsurface may be associated with the former tannery use of the site;
- hexavalent chromium was not detected in any soil samples. Dissolved hexavalent chromium concentrations were only detected in groundwater in MW02. The concentration detected in MW02 exceeded freshwater and marine water ecological Tier 1 risk criteria, and is likely associated with the former tannery operations at the time;
- ammonia concentrations were only detected in MW02, and MW02 exceeded freshwater and marine water ecological Tier 1 risk criteria. The elevated ammonia and nitrogen levels in downgradient monitoring well MW02 (and other impacts) may require further offsite investigation and risk assessment;
- acid sulfate soil was not detected in shallow soil at the site; however, potential acid sulfate soil is likely present in deeper soil (i.e. > 1.5 mbgs) toward the eastern boundary of the site but is unlikely to be disturbed or require management during development construction unless deep excavations are planned in this area;
- the relative percent difference (RPD) in some laboratory duplicate, as well as field duplicate quality sample results, indicated that there was potential for errors or cross-contamination associated with metals, PFAS, PAHs and TRHs in samples, which may have caused some variation in results, however, the overall data quality for this investigation is considered reliable; and
- due to the contamination observed at the site, there is a duty to report contamination to NSW EPA under section 60 of the Contaminated Land Management Act 1997 (CLM Act).

# 10.2 Suitability for Use

Based on the results reported in this investigation, the site is suitable for use pending recommendations outlined below relating to further investigation of potential groundwater contamination risk to offsite ecological receptors.

Management controls will be required to mitigate risk both for the construction phase of development and potentially for future use of the site.

## 10.3 Recommendations

Based on the results of this investigation, the following is recommended:





- update the 2020 asbestos register and Asbestos in Grounds Management Plan now that earthworks and upgrades have been completed in the Tiger Turf field construction and additional asbestos has been detected in fill soil. Ensure compliance with the requirements including inspections are recorded and maintained relating to the eastern portion of the site. Due to the presence of ACM (above human health screening criteria) detected in BH07 at the pedestrian entrance area on Stanley Street, ensure revisions to the asbestos management relate to disturbance of soil across the entire site as a precaution. This is due to the uncertainty in sampling using boreholes and not collecting bulk soil samples that would be collected with test pits and the heterogeneity of fill;
- resampling all wells is recommended due to the potential for laboratory cross-contamination and to confirm low-level PFAS results. Determine if any significant historical fire events were recorded in the vicinity of MW03 where firefighting foams may have been used that may have been a potential source of PFAS. No soil PFAS impacts were detected, however, detection limits were higher than those used for groundwater;
- a hydrogeological study including levels survey and data logging of wells to determine groundwater flow and risk to potential ecologocal receptors from various groundwater impacts observed in MW02 and dissolved metals in all wells;
- based on the results of the additional investigation noted above, installation of offsite groundwater monitoring wells may be required;
- an acid sulfate soil management plan (ASSMP) should be prepared if deep excavation in the east of the site (>1.5 mbgs) is to occur during development construction; and
- if monitoring wells are required to be decommissioned during development construction, a licensed drilling contractor should complete this in accordance with Minimum Construction Requirements for Water Bores in Australia, 3rd Edition (NUDLC, 2012).





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## 12 Limitations

Limitatio	ns Template Ve	ersion	
Version			

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## 13 Attachments

#### **FIGURES**

- 1. Site Location
- 2. Site Layout
- 3. Former Tannery Features
- 4. Sample Layout Plan
- 5. Sample Tier 1 Risk Exceedances

#### **ANALYTICAL TABLES**

- 1. Soil PFAS, CH, PCBs, Hal Benz
- 2. Soil Inorganics, Metals
- 3. Soil SPOCAS
- 4. Soil BTEX, TRH, Solvents
- 5. Soil PAH
- 6. Soil Asbestos
- 7. Soil Phenols
- 8. Water PFAS
- 9. Water Phenols, CH, HB and Herb
- 10. Water Hydrocarbons, PCBs
- 11. Water Inorganics Metals
- 12. Waste Soil
- 13. Duplicate Soil
- 14. Duplicate Water
- 15. Field Blanks

#### **APPENDICES**

- A. Photo Log
- B. Proposed Conceptual Design
- C. Dial Before You Dig Information
- D. Soil Borelogs
- E. Groundwater Sampling Sheets





- F. NSW EPA Reporting Checklist
- G. Duty to Report Checklist
- H. Calibration Certificates
- **Laboratory Analytical Certificates**
- J. Asbestos In Grounds Management Plan (WSP, 2020) and Site Asbestos Register





# **FIGURES**

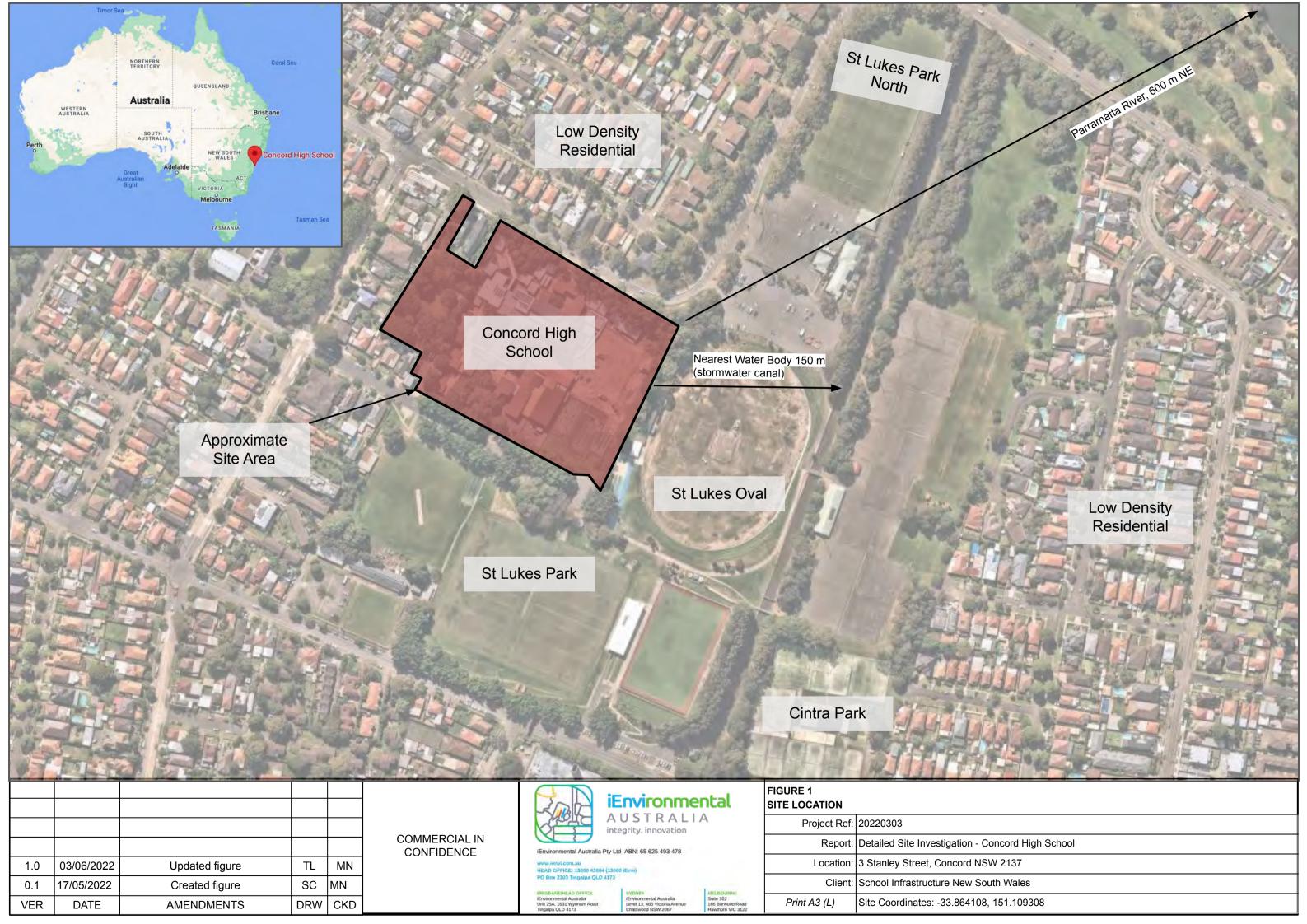
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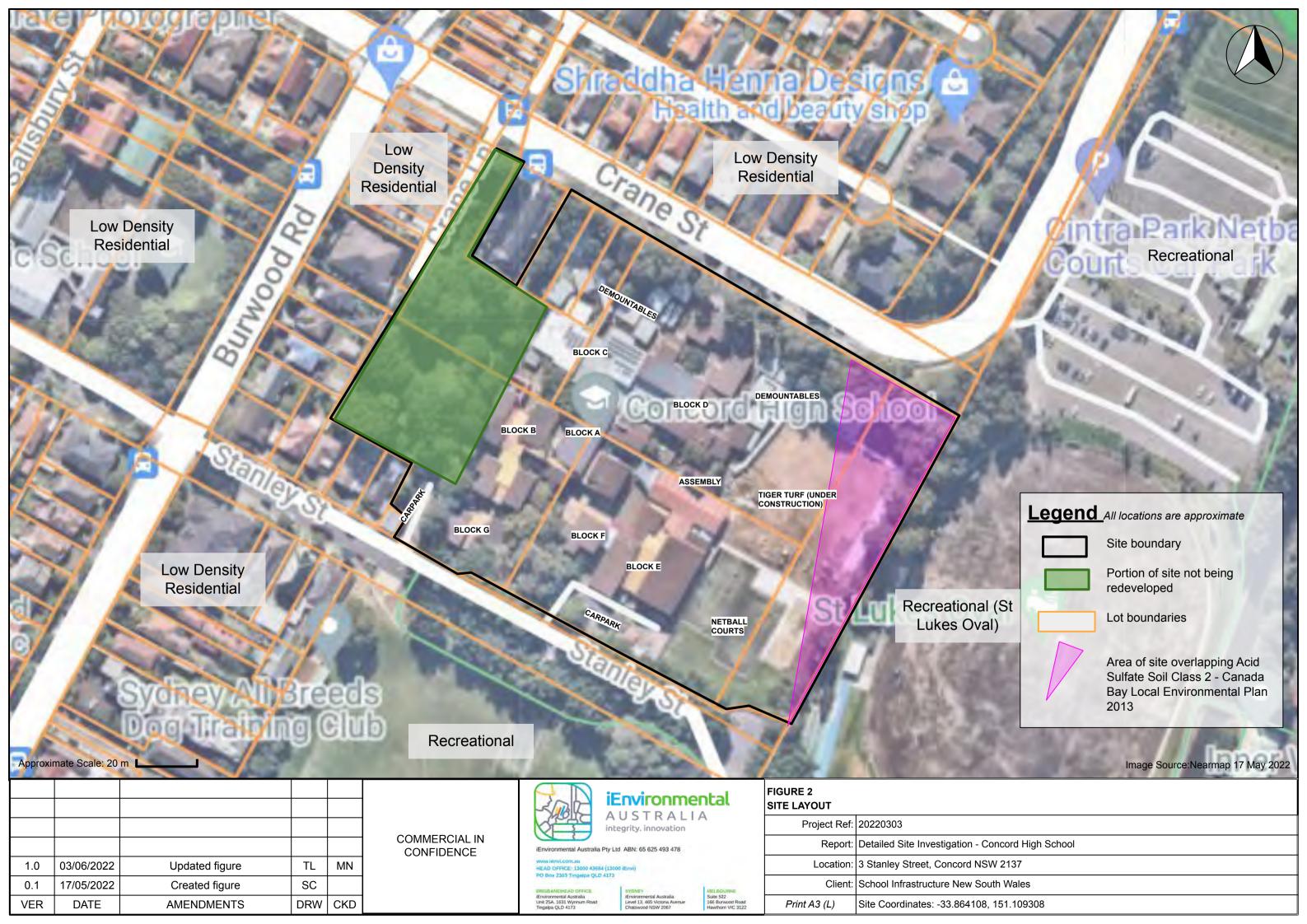
Figure 2. Site Layout

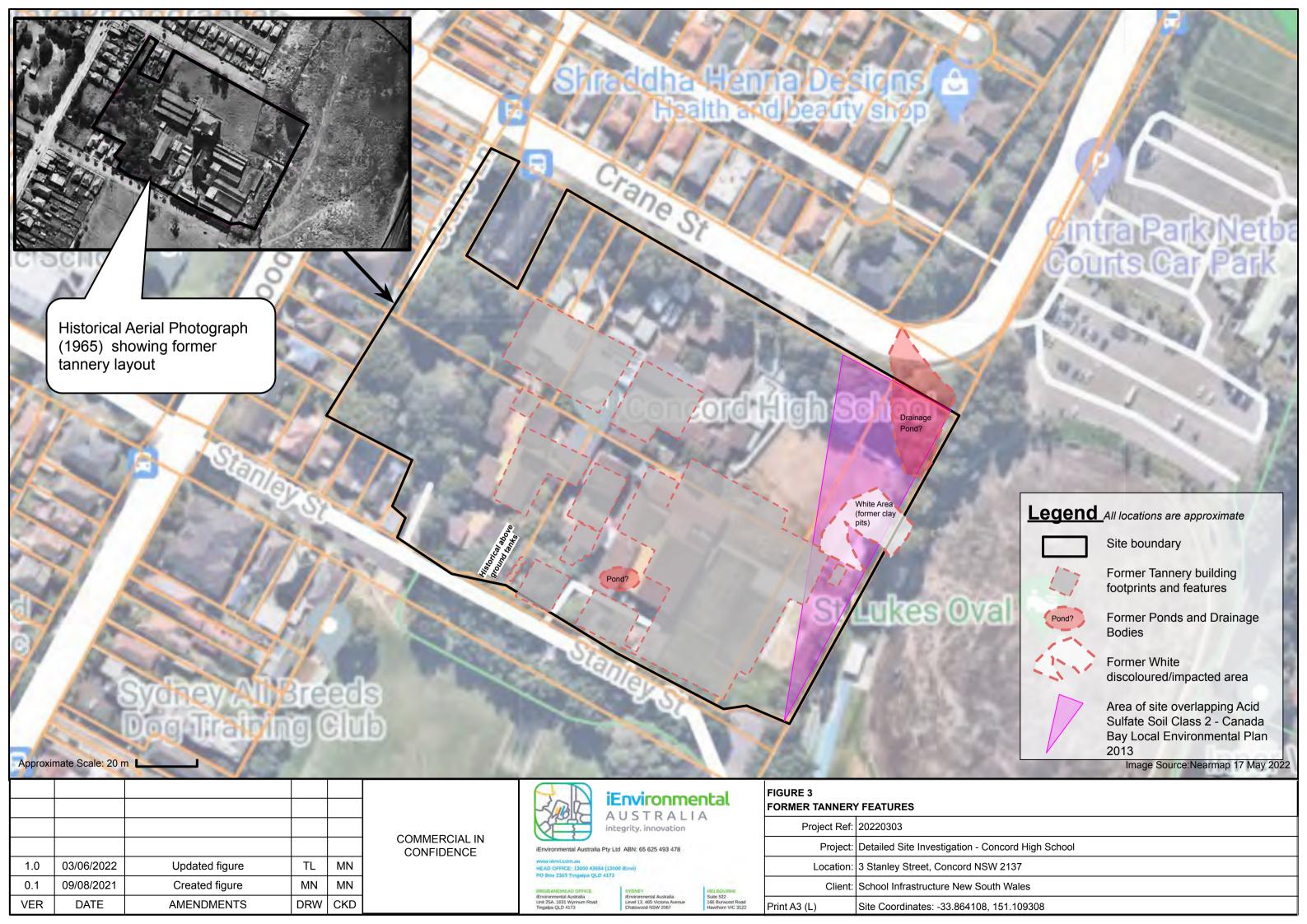
Figure 3. Former Tannery Features

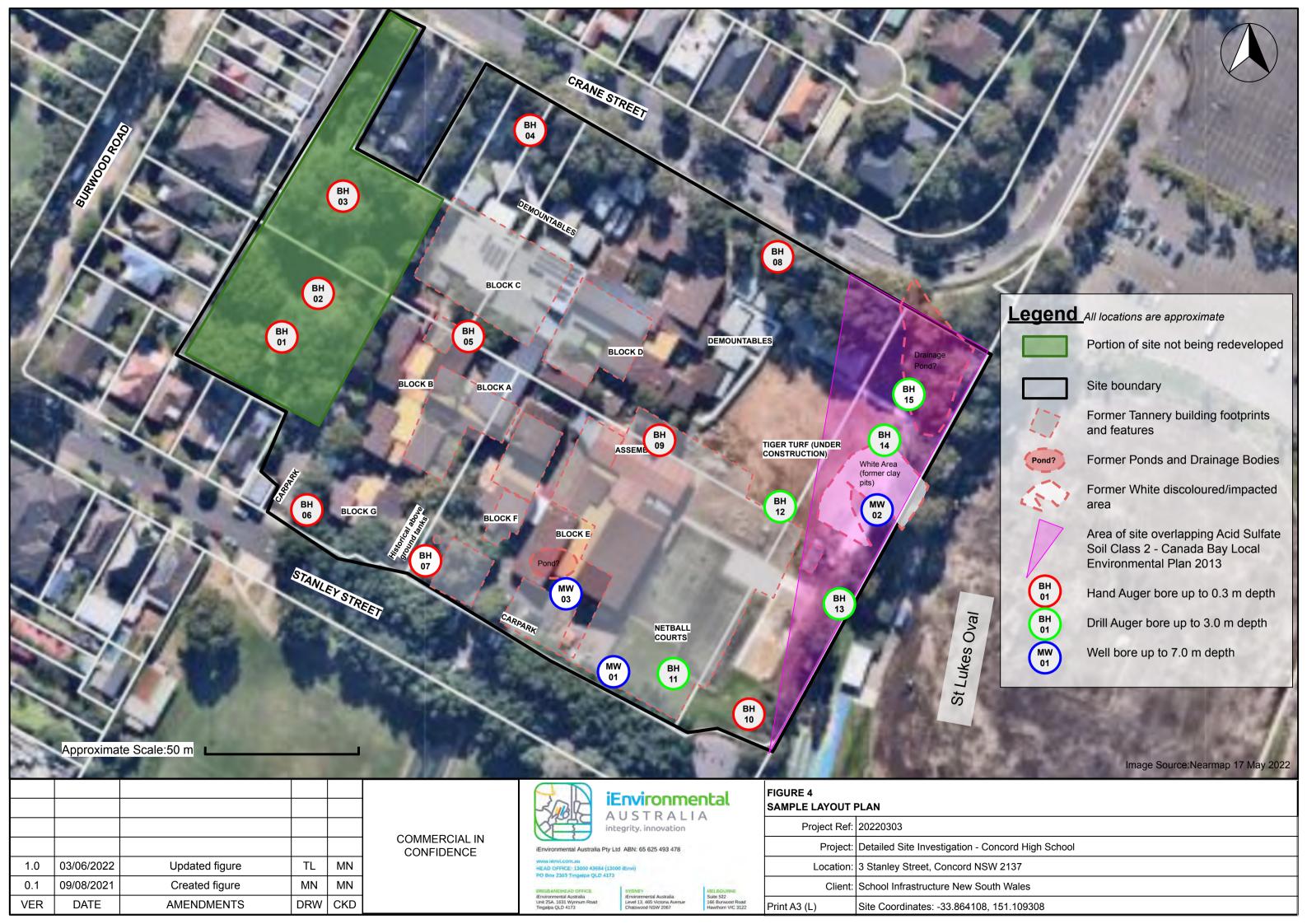
Figure 4. Sample Layout Plan

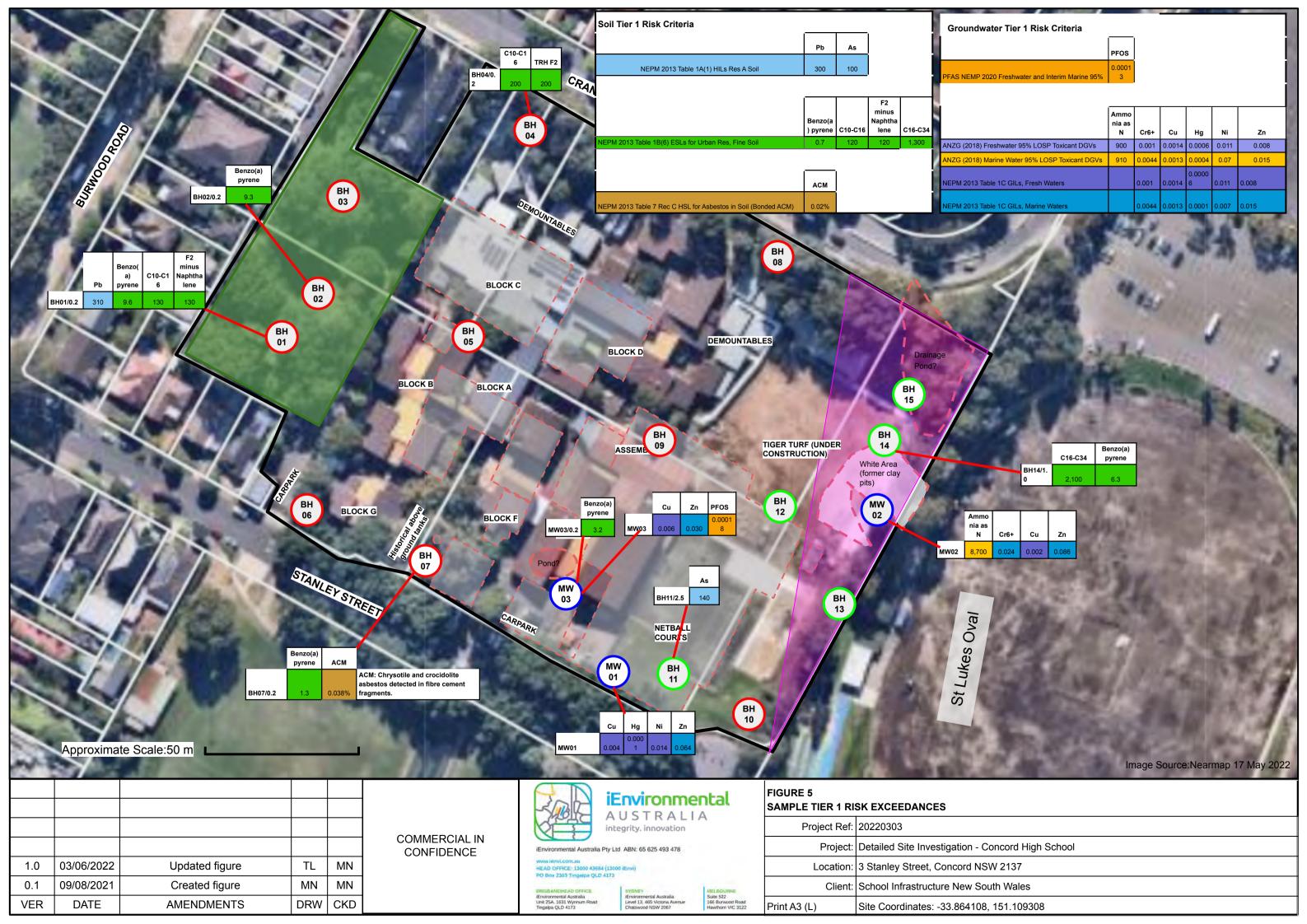
Figure 5. Sample Tier 1 Risk Criteria Exceedances













# **ANALYTICAL TABLES**

Analytical Table 1. Soil PFAS, CH, PCBs, Hal Benz

Analytical Table 2. Soil Inorganics, Metals

Analytical Table 3. Soil SPOCAS

Analytical Table 4. Soil BTEX, TRH, Solvents

Analytical Table 5. Soil PAH

Analytical Table 6. Soil Asbestos

Analytical Table 7. Soil Phenols

Analytical Table 8. Water PFAS

Analytical Table 9. Water Phenols, CH, HB and Herb

Analytical Table 10. Water Hydrocarbons, PCBs

Analytical Table 11. Water Inorganics Metals

Analytical Table 12. Waste Chemistry Table

Analytical Table 13. Duplicate Soil

Analytical Table 14. Duplicate Water

Analytical Table 15. Field Blanks

## 1. Soil PFAS, CH, PCBs, Hal Benz



																													Herb icide								
							- 0		/PFOA			(	Chlorin	ated H	lydroc		ıs				На	logena	ated B	enzen	es				s				PC	Bs			
						Perfluorohexane	Perfluorooctanesulfonic	Sum of enHealth PFAS (PFHXS + PFOS + PFOA)*	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	Benzal Chloride	Benzotrichloride	Benzyl chloride	Hexachlorobutadiene	Hexachlorocyclopentad ene	Hexachloroethane	1,2,3,4- tetrachlorobenzene	1,2,3,5- Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4,5- tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Hexachlorobenzene	Pentachlorobenzene		Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
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EQL	 able 1B(7) Manag	ement Limit	s in Res/Park	dand Fi	ne Soil	5	0.005	5	5	5	0.01	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	20	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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901484	S22-Jn0063774		21/06/22 21/06/22	0.2	Soil	<5 <5			<5 <5				<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20 <20	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
901484	S22-Jn0063775	-	21/06/22	0.2	Soil	<5			<5				<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
901484	S22-Jn0063776		21/06/22	0.2	Soil	<5			<5				<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
901484	S22-Jn0063777		21/06/22	0.2	Soil	<5	_		<5				<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	
901484	S22-Jn0063778	BH10/0.2	20/06/22	0.2	Soil	<5	<0.00	5 <5	<5	<5	<0.01	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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901484	S22-Jn0063783			0.2	Soil	<5	<0.00	5 <5	<5	<5	<0.01		<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
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901484	S22-Jn0063786		20/06/22	1	Soil	- 3	VU.UU.	5 (5	(3	(3	V0.01		<0.05	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	V0.1	V0.1	V0.1	VU.1	V0.1	V0.1	V0.1	V0.1
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Average Cond						_	0.002		_	2.5																											_
Median Conc	entration *					2.5	0.002	5 2.5	2.5	2.5	0.005	0.025	0.025	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Standard Dev	riation *					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
95% UCL (Stu	1					2.5	0.002	5 2.5	2.5		0.005		0.025				0.25			0.25		0.25			0.25		0.25							0.144		0.144	0.14
% of Detects	-					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Det		5 has been a	1			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

## 2. Soil Inorganics, Metals



						Pa	article Si	ze					ı	norganio	s					Lead					Metals				
						% Clay*	<2mm Fraction	>2mm Fraction	Conductivity (1:5 aqueous extract)	Nitrite + Nitrate as N	Ammonia as N	CEC	Chloride	Cyanide Total	Kjeldahl Nitrogen Total	Moisture Content (dried @ 103°C)	Nitrogen (Total)	рн (Гаb)	тос	Lead	Arsenic	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Iron	Mercury	Nickel	Zinc
						%	G	G	μS/cm	mg/kg	mg/kg	meq/100g	mg/kg	mg/kg	mg/kg	%	mg/kg	-	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						1			10	5	5	0.05	10	1	10	1	10	0.1		5	2	0.4	1	5	5	20	0.1	5	5
	Table 1B(5) Gener	ric EIL - Urba	n Res & Publi	c Open S	Space															1100^	100^			450	220^			300^	780^
(top 2 m on	Table 1A(1) HILs R	es Δ Soil																		300	100	20	100	430	6,000		40	400	7,400
	Table 1A(1) HILs R																			600	300	90	300		17,000		80	1,200	30,000
																									1 /			_/	100,000
Lab Report	N Sample Code	Field ID	Date	Depth	Matrix	Туре																							
901484	S22-Jn0063769	BH01/0.2	21/06/22	0.2	Soil	18			31	<5	<5	14	<10	<1	3,300	24	3,300	5.9	5.2	310	42	0.8	<1	29	96	61,000	0.3	45	600
901484	S22-Jn0063770	BH02/0.2	21/06/22	0.2	Soil	4.1			23	14	<5	27	<10	<1	5,200	32	5,214	6.2	10	230	7.6	<0.4	<1	18	44	20,000	1.5	8	240
901484	S22-Jn0063771	BH03/0.2	21/06/22	0.2	Soil	17			21	<5	<5	22	<10	<1	4,400	26	4,400	5.6	6.5	57	7	<0.4	<1	20	17	37,000	<0.1	6.2	56
901484	S22-Jn0063772	BH04/0.2	21/06/22	0.2	Soil	9.8			57	16	<5	24	12	<1	3,100	18	3,116	5.8	6.2	42	4.8	<0.4	<1	12	16	41,000	<0.1	6.6	66
901484	S22-Jn0063773	BH05/0.2	21/06/22	0.2	Soil	<1			46	<5	<5	28	<10	<1	780	14	780	7.8	0.6	<5	<2	<0.4	<1	120	55	180,000	<0.1	270	100
901484	S22-Jn0063774	BH06/0.2	21/06/22	0.2	Soil	15			28	8.4	<5	27	<10	<1	2,300	26	2,308.4	6.9	6.9	51	16	<0.4	<1	74	32	130,000	<0.1	54	95
901484	S22-Jn0063775	BH07/0.2	21/06/22	0.2	Soil	16			79	<5	<5	23	<10	<1	2,000	18	2,000	7.4	4.5	6.2	<2	<0.4	<1	<5	<5	Asb	<0.1	<5	13
901484	S22-Jn0063776	BH08/ 0.2	21/06/22	0.2	Soil	27			17	6	<5	21	<10	<1	670	14	676	6.1	3.3	110	17	<0.4	<1	26	23	70,000	<0.1	7.5	130
901484	S22-Jn0063777	BH09/0.2	21/06/22	0.2	Soil	31			60	<5	<5	22	15	<1	510	14	510	7.1	1.6	25	8.2	<0.4	<1	16	11	32,000	<0.1	<5	17
901484	S22-Jn0063778	BH10/0.2	20/06/22	0.2	Soil	8.5			37	19	<5	18	<10	<1	2,600	22	2,619	5.6	4.9	51	9.6	<0.4	<1	22	21	24,000	<0.1	8.4	91
901484	S22-Jn0063779	BH11/0.2	20/06/22	0.2	Soil	28			66	<5	<5	15	41	<1	3,400	18	3,400	5.7	3.1	63	14	<0.4	<1	30	21	37,000	<0.1	6.8	70
901484	S22-Jn0063780	BH11/2.5	20/06/22	2.5	Soil									<1		21				130	140	0.7	<1	19	74		<0.1	53	190
901484		BH12/0.2	20/06/22	0.2	Soil	17	13	2.8	48	<5	<5	15	<10	<1	280	16	280	7.7	0.8	78	21	<0.4	<1	33	15	55,000	<0.1	7.6	54
901484	S22-Jn0063782		20/06/22	2.5	Soil									<1		21				31	11	<0.4	<1	24	14		<0.1	<5	110
901484	S22-Jn0063783		20/06/22	0.2	Soil	4.2	11	5	72	<5	<5	27	<10	<1	340	9.8	340	9.3	0.7	210	5.4	<0.4	<1	17	8.4	18,000	<0.1	5.1	62
901484	S22-Jn0063784		20/06/22	2.5	Soil									<1		39				52	8.8	<0.4	<1	13	15		<0.1	<5	100
901484	S22-Jn0063785		20/06/22	0.2	Soil	4.9	18	0.51	110	<5	<5	28	<10	<1	180	11	180	7.8	1	19	2.5	<0.4	<1	11	21	21,000	<0.1	17	36
901484	S22-Jn0063786		20/06/22	1	Soil									<1		8.5				79	5.6	<0.4	<1	50	27		0.6	26	88
901484	S22-Jn0063793		20/06/22	0.2	Soil	26	9.7	5.6	26	5.4	<5	15	<10	<1	330	18	335.4	7.1	4.7	49	24	<0.4	<1	40	19	58,000	<0.1	9.3	77
901484	S22-Jn0063794		20/06/22	2	Soil	_				10	<5	22	17	<1	710	16	720	6.7		100	15	<0.4	<1	31	18	40.000	<0.1	12	130
901484		MW01/0.2	20/06/22	0.2	Soil	<1			67	14	<5	23	<10	<1	2,000	19	2,014	6.7	6.5	52	18	<0.4	<1	24	17	40,000	<0.1	7.9	78
901484	S22-Jn0063790		20/06/22	4.5	Soil	6.0	- 11	F 2	110	<5	<5	24	35	<1	170	19	170	0.6	-	24	19	<0.4	<1	39	7.8	20.000	<0.1	<5	13
901484	S22-Jn0063791			0.2	Soil	6.9	14	5.3	140	<5 -c	<5 -c	21	<10	<1	1,200 74	14	1,200	8.6	2	22	3.6	<0.4	<1	14	320	28,000	<0.1	7.9 5.5	42
901484	S22-Jn0063792 S22-Jn0063787	MW03/0.2	20/06/22	4.5	Soil	8			62	<5 <5	<5 <5	20	420	<1	350	18	74	0 5	1.2	66	11	<0.4	<1	72		35,000	<0.1		210
901484	S22-Jn0063787 S22-Jn0063788		20/06/22	0.2 4.5	Soil	ð			62	<5	<5	30	<10	<1 <1	330	13 5.2	350	8.5	1.2	89 38	20	<0.4	<1 <1	28 46	39 27	35,000	<0.1	17 <5	56 15
301464	322-3110003788	1010003/4.3	20/00/22	4.5	3011											3.2					23	<b>\0.4</b>		40			\0.1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	13
Statistics																													
Number of	Results					18	5	5	18	21	21	18	21	26	21	26	21	18	18	26	26	26	26	26	26	18	26	26	26
Number of						16	5	5	18	8	0	18	6	0	21	26	21	18	18	25	24	2	0	25	25	18	3	20	26
	oncentration					<1	9.7	0.51	17	<5	<5	14	<10	<1	74	5.2	74	5.6	0.6	<5	<2	<0.4	<1	<5	<5	1,000	<0.1	<5	13
Minimum D						4.1	9.7	0.51	17	5.4	ND	14	12	ND	74	5.2	74	5.6	0.6	6.2	2.5	0.7	ND	11	7.8	1,000	0.3	5.1	13
Maximum (	Concentration					31	18	5.6	140	19	<5	30	420	<1	5,200	39	5,214	9.3	10	310	140	0.8	<1	120	320	180,000		270	600
Maximum [	Detect					31	18	5.6	140	19	ND	30	420	ND	5,200	39	5,214	9.3	10	310	140	0.8	ND	120	320	180,000		270	600
Average Co	ncentration *					13	13	3.8	55	6	2.5	22	29	0.5	1,614	18	1,618	7	3.9	76	18	0.24	0.5	32	37	49,333		23	105
Median Cor	centration *					12.4	13	5	52.5	2.5	2.5	22.5	5	0.5	780	18	780	7	3.9	52	11	0.2	0.5	25	20	37,000	0.05	7.75	77.5
Standard Do	eviation *					9.7	3.2	2.2	32	5.4	0	5.1	90	0	1,542	7.2	1,545	1.1	2.7	72	27	0.15	0	25	61	42,906	0.3	53	116
95% UCL (St	tudent's-t) *					17.45	16.18	5.906	68.22	7.991	2.5	24.32	63.19	0.5	2,194	20.67	2,200	7.454	4.984	100.7	26.44	0.293	0.5	40.26	57.96	66,926	0.238	40.52	144.3
% of Detect	s					89	100	100	100	38	0	100	29	0	100	100	100	100	100	96	92	8	0	96	96	100	12	77	100
% of Non-D	etects					11	0	0	0	62	100	0	71	100	0	0	0	0	0	4	8	92	100	4	4	0	88	23	0
* A Non Det	ect Multiplier of 0	.5 has been	applied.																										

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil
NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil
HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure
HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)
HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)
2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

<sup>^</sup> calculated based on average soil characteristics and the NEPM Toolbox calculation spreadsheet, Aged Urban Residential and Open Public Spaces

## 3. Soil SPOCAS



															SDO	CAS														
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \													370	υ												₹		
	sing y units	sing ent S%		Sulfur	Gium		acted	acted	o <u>►</u>	ctor	ide	alciun		ulfur		eroxid	iţ	5	el di			acted	acted	<u>e</u> .	- S	e ~	o l	Acidi	g e	u l
	la igi	is alis	<u></u>	<u>⊸</u> ₽	<u> </u>		l Re	I Reg	oxide ulfu	s Fa	Š	] e	9 E	le S		. <u>.</u>	acid	sulf	disa				d Re	atak	atak	atab idit,	oxid	tral	izo Z	<u> </u>
	- Ac	e qu	Se	tior	ctec	ium ctec	Acid	Acid	Perc ole S	sues	E.	ga	Siur	cta	Rate	Ē	lity (a	idity (si units)	le Oxi			- Acid Calciu	Acie	Aci Tit	e ∓	. Ac Tit	Per	e Ac	e Pe	e Su dity
	Acid Neutralis pacity - Acidit	city	as C	Cl Extractab Correction	Rea	Rea	اکخا	Ğ	isak	Ë	Ē	xtra	Cl Extractabl Magnesium	xtra	a B	nesi	Cid	cid	xide s	(kci)	Ŕ	<u> </u>	<u>.</u> 28	Ifidic - " Actual	Ski -		<u>=</u>	tabl	Ac	Aci
	Sapa A	Caps A	NC	₽ 8	Cid	Mag	gcidi	čig	Oxic	NC	Salci Calci	9	ΩŠ	C Extr	Ē	Mag	et,	det.	l oero	Ę	(хо) но	i i	i j	ij y	P P	l ij s	ਵ੍ਹੇ	litra	litra	lit a
	mole H+/t	: %S	% CaCO3	FACTOR	%	% MG	mole H+/t	mole H+/t	mole H+/t	-	%	%	%	%	kg CaCO3/t	%	mole H+/t	%S	%	-	-	% S	%S	%S	%S	%S	%	mole H+/t	MOL H+/T	MOL H+/T
EQL	10	0.02	0.02	1	0.005		0.005	0.005	10		0.005	0.005	0.005	0.005	1	0.005	10	0.02	0.02	0.1	0.1		0.005	0.003	0.02	0.02	0.005	2		
NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil																														
NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil PFAS NEMP 2020 Ecological direct exposure																														
PFAS NEMP 2020 Public open space (HIL C)																														
PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)																														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																														
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																														
NEPM 2013 Table 1A(1) HILS Res A Soil																														
NEPM 2013 Table 1A(1) HILs Rec C Soil																														
Lab Repo Sample Code Field ID Date Depth Matrix Typ	20																													
Lab Repo Sample Code   Field ID   Date   Depth   Matrix Type   901484   S22-Jn0063769   BH01/0.2   21/06/22   0.2   Soil	pe																													
901484   S22-Jn0063770   BH02/0.2   21/06/22   0.2   Soil																														
901484 S22-Jn0063771 BH03/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063772 BH04/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063773 BH05/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063774 BH06/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063775 BH07/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063776 BH08/ 0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063777 BH09/0.2 21/06/22 0.2 Soil																														
901484 S22-Jn0063778 BH10/0.2 20/06/22 0.2 Soil																														
901484 S22-Jn0063779 BH11/0.2 20/06/22 0.2 Soil																														
901484 S22-Jn0063780 BH11/2.5 20/06/22 2.5 Soil																														
901484 S22-Jn0063781 BH12/0.2 20/06/22 0.2 Soil	230	0.37	1.1	2	0.22	0.018	110	14	<10	1.5	0.63	0.41	0.023	0.006	<1	0.041	<10	<0.02	<0.02	8.3	8.1	0.17	0.023	<0.003	<0.02	<0.02	0.016	<2	<2	<2
901484 S22-Jn0063782 BH12/2.5 20/06/22 2.5 Soil 901484 S22-Jn0063783 BH13/0.2 20/06/22 0.2 Soil	170	0.28	0.87	2	0.16	0.016	79	13	<10	1.5	0.47	0.31	0.009	0.014	<1	0.024	<10	<0.02	<0.02	8.7	7.9	0.13	0.021	<0.003	<0.02	<0.02	0.024	<2	<2	<2
901484   S22-Jn0063784   BH13/2.5   20/06/22   2.5   Soil	170	0.28	0.67		0.10	0.010	/5	13	<b>\10</b>	1.3	0.47	0.31	0.003	0.014	\1	0.024	V10	\0.02	\0.02	0.7	7.5	0.13	0.021	\0.003	\0.02	<0.02	0.024	\2	\	\2
901484 S22-Jn0063785 BH14/0.2 20/06/22 0.2 Soil	430	0.69	2.1	2	0.66	0.027	330	22	<10	1.5	0.96	0.3	0.009	0.013	<1	0.036	<10	<0.02	<0.02	9.3	8.5	0.53	0.035	<0.003	<0.02	<0.02	0.024	<2	<2	<2
901484 S22-Jn0063786 BH14/1.0 20/06/22 1 Soil	1.00					0.02.								0.000																
901484 S22-Jn0063787 MW03/0.2 20/06/22 0.2 Soil																														
901484 S22-Jn0063788 MW03/4.5 20/06/22 4.5 Soil																														
901484 S22-Jn0063789 MW01/0.2 20/06/22 0.2 Soil																														
901484 S22-Jn0063790 MW01/4.5 20/06/22 4.5 Soil																														
901484 S22-Jn0063791 MW02/0.2 20/06/22 0.2 Soil	200	0.33	1	2	0.2	0.022	99	18	11	1.5	0.55	0.36	0.018	0.015	<1	0.04	<10	<0.02	<0.02	8.7	7.7	0.16	0.029	<0.003	<0.02	<0.02	0.032	<2	<2	<2
901484 S22-Jn0063792 MW02/4.5 20/06/22 4.5 Soil																													_	
901484 S22-Jn0063793 BH15/0.2 20/06/22 0.2 Soil				2	<0.005	0.005	<0.005	4.4	10	1.5	0.33	0.36	0.026	0.005	<1	0.031	<10	<0.02	<0.02	6.5	5.6	<0.005	0.007	<0.003	<0.02	<0.02	0.022	<2	<2	<2
901484   S22-Jn0063794   BH15/2.0   20/06/22   2     Soil																														
Statistics																														
Number of Results	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Number of Detects	4	4	4	5	4	5	4	5	2	5	5	5	5	5	0	5	0	0	0	5	5	4	5	0	0	0	5	0	0	0
Minimum Concentration	170	0.28	0.87	2	<0.005	0.005	<0.005	4.4	10	1.5	0.33	0.3	0.009	0.005	<1	0.024	<10	<0.02	<0.02	6.5	5.6	<0.005	0.007	<0.003	<0.02	<0.02	0.016	<2	<2	<2
Minimum Detect	170	0.28	0.87	2	0.16	0.005	79	4.4	10	1.5	0.33	0.3	0.009	0.005	ND	0.024	ND	ND	ND	6.5	5.6	0.13	0.007	ND	ND	ND	0.016	ND	ND	ND
Maximum Concentration	430	0.69	2.1	2	0.66	0.027	330	22	11	1.5	0.96	0.41	0.026	0.015	<1	0.041	<10	<0.02	<0.02	9.3	8.5	0.53	0.035	<0.003	<0.02	<0.02	0.032	<2	<2	<2
Maximum Detect	430	0.69	2.1	2	0.66	0.027	330	22	11	1.5	0.96	0.41	0.026	0.015	ND	0.041	ND	ND	ND	9.3	8.5	0.53	0.035	ND	ND	ND	0.032	ND	ND	ND
Average Concentration *	258	0.42	1.3	2	0.25	0.018	124	14	7.2	1.5	0.59	0.35	0.017	0.011	0.5	0.034	5	0.01	0.01	8.3	7.6	0.2	0.023	0.0015	0.01	0.01	0.024	1	1	1
Median Concentration *	215	0.35	1.05	2	0.2	0.018	99	14	5	1.5	0.55	0.36	0.018	0.013	0.5	0.036	5	0.01	0.01	8.7	7.9	0.16	0.023	0.0015	0.01	0.01	0.024	1	1	1
Standard Deviation *	118	0.19	0.56	0	0.25	0.0082	123	6.6	3	0	0.24	0.044	0.0078	0.0047	0	0.007	0	0	0	1.1	1.1	0.2	0.01	0	0	0	0.0057	0	0	0
95% UCL (Student's-t) *	395.9	0.636	1.93	2	0.482	0.0254	241	20.55	10.09	1.5	0.813	0.39	0.0245	0.0151	0.5	0.0411	5	0.01	0.01	9.318	8.642	0.386	0.033	0.0015	0.01	0.01	0.0291	1	1	1
% of Detects	100	100	100	100	80	100	80	100	40	100	100	100	100	100	100	100	100	100	100	100	100	80	100	100	100	100	100	100	100	100
% of Non-Detects	U	0	0	0	20	0	20	0	60	0	0	0	0	0	100	0	100	100	100	0	0	20	0	100	100	100	0	100	100	100

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A) 2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil 2013, NEPM 2013 Table 1A(1) HILs Res A Soil

## 4. Soil BTEX,TRH, Solvents



			BTEX										PAH						Sc	lvents					TP	H/TRH			
	Bay/Ba My/bahthalene (BTEX)	Benzene Benzene	ounion Mg/kg	Say/Benzene	Xylene (m & p)  mg/kg mg/kg xylene (o)	A Acenaphthene	- ▼	Anthracene  Management  Manage	% Benzo(a) pyrene	Banzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	kg/kgm	Fluor	Indeno(1,2,3-c,d)pyrene	mg/kg	mg/kg m	Marthyl Ethyl Ketone	Aceton	න ජ්ර mg/kg	mg/kg C10-C14	mg/kg n	95-C3-C36	Ce-C10	C16 T	C10-C36 (Sum of	may/c.10-C40 (sum of total)  My/c34-C40	mg//8m STEX minus BTEX gx/8m St minus Naphthalene
EQL	0.5	0.1								0.5			0.5 0.5			.5 0.5			0.5 0.5						20 50			00 100	20 50
NEPM 2013 Table 1B(7) Management Limits in Res/Parkland. Fine Soil																							/ /		800 1.0	00 3.500		10.000	
NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil																													
PFAS NEMP 2020 Ecological direct exposure																													
PFAS NEMP 2020 Public open space (HIL C)																													
PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)																													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay	5	0.7   1   2   3	480													5													0   150 280
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space	170															170													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil		65	105	125					0.7																12	0 1,300		5,600	180 120
NEPM 2013 Table 1A(1) HILs Res A Soil																			300										
NEPM 2013 Table 1A(1) HILs Rec C Soil																			300										
HEI III 2015 Table 1/(1) The fire 0 5011																			500										
Lab Report Ni Sample Code Field ID Date Depth Matrix Ty	/ne																												
901484 S22-Jn0063769 BH01/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1	<0.1	<0.2 <0.1	0.7	2 8	3.3 12	9.6	7	3	7	12 1.3	28	2.4 4	.1 <5	22	27	150 <0.5	<0.5	<20	52	830	430	<20 13	0 1 100	1,312 1,4	150 220	<20 130
901484 S22-Jn0063770 BH02/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1			3.7 7.2		6.9		_	9.1 1.6			.3 0.7	13		110 <0.5		<20	54					1,254 1,4		<20 130
901484	<0.5	<0.1			<0.2 <0.1			0.5 <0.5			_		<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5		240 20		<20 <50
901484 S22-Jn0063772 BH04/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1			0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	120			<20 20		1,700 1,9		<20 200
																				_									
901484 S22-Jn0063773 BH05/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1	_		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5		132 11		<20 <50
901484 S22-Jn0063774 BH06/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1	_		0.5 < 0.5					0.5 <0.5			0.5 < 0.5			2.5 <0.5		<20	<20			<20 <5		370 44		<20 <50
901484 S22-Jn0063775 BH07/0.2 21/06/22 0.2 Soil 901484 S22-Jn0063776 BH08/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1			0.5 1.2					1.6 <0.5			.7 <0.5			14 <0.5		<20	32			<20 <5		372 38		<20 <50
	<0.5	<0.1	<0.1		<0.2 <0.1			0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	31			<20 <5		281 22		<20 <50
901484 S22-Jn0063777 BH09/0.2 21/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1	_		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20		51	<20 <5		127 11		<20 <50
901484 S22-Jn0063778 BH10/0.2 20/06/22 0.2 Soil	<0.5	<0.1	<0.1		<0.2 <0.1			0.5 <0.5					0.5 <0.5			0.5 < 0.5			3.9 <0.5		<20	24			<20 <5		294 22		<20 <50
901484 S22-Jn0063779 BH11/0.2 20/06/22 0.2 Soil	<0.5	<0.1	_		<0.2 <0.1	_		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5	<0.5	<20	<20	64	74	<20 <5	_	138 12		<20 <50
901484 S22-Jn0063780 BH11/2.5 20/06/22 2.5 Soil	<0.5	<0.1			<0.2 <0.1			0.5 < 0.5				_	<0.5 <0.5			0.5 < 0.5			1		<20	<20	110	66	<20 <5		176 15		<20 <50
901484 S22-Jn0063781 BH12/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5	<0.5	<20	<20		74	<20 <5		147 13		<20 <50
901484 S22-Jn0063782 BH12/2.5 20/06/22 2.5 Soil	<0.5	<0.1			<0.2 <0.1	_	1	0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5		<20	<20			<20 <5		1	.00 <100	<20 <50
901484 S22-Jn0063783 BH13/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5	<0.5	<20	<20			<20 <5			.00 <100	<20 <50
901484 S22-Jn0063784 BH13/2.5 20/06/22 2.5 Soil	<0.5	<0.1			<0.2 <0.1			0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5		<20	52			<20 5		258 23		<20 53
901484 S22-Jn0063785 BH14/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5	<0.5	<20	<20		_	<20 <5			.00 <100	<20 <50
901484 S22-Jn0063786 BH14/1.0 20/06/22 1 Soil	<0.5	<0.1			<0.2 <0.1			2.7 4.9		-			7.4 0.7			.1 0.7	6.2		75		<20		1,100		<20 <50		2,600 3,7		<20 <500
901484 S22-Jn0063793 BH15/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1			0.5 <0.5				_	<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5			.00 <100	<20 <50
901484 S22-Jn0063794 BH15/2.0 20/06/22 2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 0.5					<0.5 <0.5			0.5 < 0.5	<1		3.6 <0.5		<20	36			<20 <5		286 21		<20 <50
901484 S22-Jn0063789 MW01/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5	<0.5		<0.5 <0.5		<20	28			<20 <5		408 43		<20 <50
901484 S22-Jn0063790 MW01/4.5 20/06/22 4.5 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5			.00 <100	<20 <50
901484 S22-Jn0063791 MW02/0.2 20/06/22 0.2 Soil	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 <0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5			20 <100	<20 <50
901484	<0.5	<0.1			<0.2 <0.1	<0.5		0.5 < 0.5					<0.5 <0.5			0.5 < 0.5			<0.5 <0.5		<20	<20			<20 <5		280 25		<20 <50
901484	<0.5	<0.1			<0.2 <0.1	<0.5		0.6 2.5		-			2.9 <0.5			.4 <0.5			28 <0.5	<0.5	<20	<20			<20 <5		310 27		<20 <50
901484   S22-Jn0063788   MW03/4.5   20/06/22   4.5   Soil	<0.5	<0.1	<0.1	<0.1	<0.2 <0.1	<0.5	<0.5 <	0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	<0.5	<0.5 <0	0.5 < 0.5	<0.5	<0.5	<0.5		<20	<20	<50	<50	<20 <5	0 <100	<50 <1	.00 <100	<20 <50
Statistics			1 1														1 1				1					.			
Number of Results	26	26	26		26 26	26		26 26		26		26	26 26	26		26 26	26		26 21	21	26	26	26	26	26 20		26 2		26 26
Number of Detects	0	0	0	0	0 0	3		5 6		5			7 3	8		5 2	7		9 0	0	0	9		20	0 4		20 2		0 4
Minimum Concentration	<0.5	<0.1			<0.2 <0.1	<0.5		0.5					0.5 <0.5			0.5 <0.5	0.5		<0.5 <0.5		<20	<20			<20 <5			.00 <100	<20 <50
Minimum Detect	ND	ND	ND		ND ND	0.7		0.5					0.5 0.7			.7 0.7	0.5		1 ND		ND	24			ND 5		127 11		ND 53
Maximum Concentration	<0.5	<0.1			<0.2 <0.1	2.5		3.3 12					12 1.6			.3 <5	22		150 <0.5		<20		1,100		<20 <50		2,600 3,7		<20 <500
Maximum Detect	ND	ND	ND		ND ND	2.5		3.3 12				_	12 1.6			.3 0.7	22		150 ND		ND				ND 20				ND 200
Average Concentration *	0.25	0.05			0.1 0.05	0.37		.81 1.3					1.5 0.36		0.38 0.		1.9		15 0.25		10			201	10 49	_	422 47		10 49
Median Concentration *	0.25	0.05			0.1 0.05	0.25		.25 0.25				0.25		0.25		25 0.25			0.25 0.25		10			98.5	10 2		249 20		10 25
Standard Deviation *	0	0	0	0	0 0	0.45			2.7				3.1 0.34			.1 0.45			38 0	0	0			314	0 59		614 81		0 59
95% UCL (Student's-t) *	0.25	0.05			0.1 0.05								2.521 0.472						7.68 0.25		10			306.6	10 68.	_	627.9 74		10 68.37
% of Detects	100	100	100	0	0 0	12		19 23		19	_	_	27 12	31		9 8	27		35 0	100	100	35		77	0 1		77 7		0 15
% of Non-Detects	100	100	100	100	100 100	88	92	81 77	73	81	77	81	73 88	69	88 8	92	73	69	65 100	100	100	65	23	23	100 8	5 23	23 2	3 73	100 85
* A Non Detect Multiplier of 0.5 has been applied.																													

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

### Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

#### 5. Soil PAH



						BTEX	[										PAH									Solve	ents						TPH/TR	RH				
																		au au			Je																	
				Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)		Acenaphthene	Acenaphthylene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranther	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracen	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrei	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Methyl Ethyl Ketone	Acetone	67-93	C10-C14	C15-C28	C29-C36	C6-C10	C10-C16	C16-C34	(Sum of	C10-C40 (Sum of total)	C34-C40	F1 minus BTEX F2 minus Naphthalene
				mg/kg																																		g/kg mg/kg
EQL NEPM 2013 Table 1	1R(7) Manage	ement Limits in Res/Parkland	d Fine S	0.5	0.1	0.1	0.1	0.2	0.1	0.5	0.5 0.	5 0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	20	20	50	50	800	1,000	3 500	50 1	100 1	100 2	20 50
NEPM 2013 Table 7	7 Rec C HSL fo	or Asbestos in Soil	u, i iie 3	,o.,																												000	1,000	3,300			,000	
PFAS NEMP 2020 E	Ecological dire	ct exposure																																				
PFAS NEMP 2020 P										_																												
		th garden/accessible soil (H oil HSL for Vapour Intrusion,																																				
	. ,	Soil HSL for Vapour Intrusion		5	0.7   1   2   3	3 480																5															DI	150 280
		EIL - Urban Res & Public Op																				170																
	1-7	Urban Res, Fine Soil			65	105	125						0.7																				120	1,300		5,	,600 1	80 120
NEPM 2013 Table 1																									300													
NEPM 2013 Table 1	1A(1) HILs Rec	c C Soil																							300													
Lab Report Nu San	mple Code	Field ID Date D	epth M	Matrix Type																																		
· ·	•	BH01/0.2 21/06/22 0		71	<0.1	<0.1	<0.1	<0.2	<0.1	).7	2 8.	3 12	9.6	7	3	7	12	1.3	28	2.4	4.1	<5	22	27	150	<0.5	<0.5	<20	52	830	430	<20	130	1,100	1,312 1,	,450	220 <	20 130
901484 S22	2-Jn0063770	BH02/0.2 21/06/22 0	.2 Sc		<0.1	<0.1	<0.1	<0.2	<0.1	_	0.6 3.			6.9	4.3	8.1	9.1	1.6	19	0.7	4.3	0.7	13		110	<0.5	<0.5	<20	54	690	510				1,254 1,			20 110
		BH03/0.2 21/06/22 0		oil <0.5	<0.1		<0.1		<0.1 <	0.5	<0.5 <0		_					<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	110	130	<20						20 <50
		BH04/0.2 21/06/22 0			<0.1		<0.1				<0.5 <0							<0.5	<0.5		<0.5	<0.5			<0.5	<0.5	<0.5	<20	120	840	740	<20			1,700 1,			20 200
		BH05/0.2 21/06/22 0. BH06/0.2 21/06/22 0.			<0.1 <0.1		<0.1				<0.5 <0 <0.5 <0							<0.5 <0.5	<0.5 1	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5		<0.5 2.5	<0.5 <0.5	<0.5 <0.5	<20 <20	<20 <20	55 160	77 210	<20 <20	<50 <50					20 <50 20 <50
		BH07/0.2 21/06/22 0			<0.1		<0.1				<0.5 <0	_						<0.5	2.4	<0.5	0.7	<0.5			14	<0.5	<0.5	<20	32	150	190	<20	_					20 <50
		BH08/ 0.2 21/06/22 0			<0.1		<0.1					.5 <0.5							<0.5		<0.5	<0.5			<0.5	<0.5	<0.5	<20	31	130	120	<20						20 <50
901484 S22	2-Jn0063777	BH09/0.2 21/06/22 0	.2 Sc	oil <0.5	<0.1	<0.1	<0.1	<0.2	<0.1 <	0.5	<0.5 <0	.5 <0.	5 <0.	5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	76	51	<20	<50	110	127 1	110 <	<100 <2	20 <50
		BH10/0.2 20/06/22 0			<0.1		<0.1				<0.5 <0							<0.5	1	<0.5	<0.5	<0.5	0.9		3.9	<0.5	<0.5	<20	24	140	130	<20	<50					20 <50
		BH11/0.2 20/06/22 0			<0.1	_	<0.1				<0.5 <0							<0.5	<0.5		<0.5	<0.5			<0.5	<0.5	<0.5	<20	<20	64	74	<20						20 <50
		BH11/2.5 20/06/22 2			<0.1 <0.1		<0.1				<0.5 0. <0.5 <0							<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5		<0.5	<0.5	-O.F	<0.5	<20 <20	<20 <20	110 73	66 74	<20 <20	<50 <50					20 <50 20 <50
		BH12/0.2 20/06/22 0. BH12/2.5 20/06/22 2.			<0.1		<0.1			_	<0.5 <0 <0.5 <0							<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	₹0.5	<20	<20	<50	<50	<20						20 <50
		BH13/0.2 20/06/22 0		-	<0.1		<0.1				<0.5 <0								<0.5		<0.5	<0.5			<0.5	<0.5	<0.5	<20	<20	<50	<50	<20						20 <50
901484 S22	2-Jn0063784	BH13/2.5 20/06/22 2	.5 Sc	oil <0.5	<0.1	<0.1	<0.1	<0.2	<0.1 <0	0.5	<0.5 <0	.5 <0.	5 <0.	5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<20	52	130	76	<20	53	180	258 2	233 <	100 <2	20 53
		BH14/0.2 20/06/22 0		-	<0.1		<0.1				<0.5 <0	_	_					<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<20	<20	<50	<50	<20						20 <50
		BH14/1.0 20/06/22 1		oil <0.5	<0.1	<0.1					<0.5 2.					5.6	7.4	0.7	14	1.1	2.1	0.7	6.2		75		.0.5	<20	<200	1,100	1,500	<20	<500				_	20 <500
		BH15/0.2 20/06/22 0 BH15/2.0 20/06/22 2			<0.1 <0.1	<0.1	<0.1				<0.5 <0 <0.5 <0			_		<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 0.9	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5			<0.5 3.6	<0.5 <0.5	<0.5 <0.5	<20 <20	<20 36	<50 130	<50 120	<20 <20						20 <50 20 <50
		MW01/0.2 20/06/22 0			<0.1	_	<0.1			_	<0.5 <0	_	_					<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<20	28	130	250	<20	<50					20 <50
		MW01/4.5 20/06/22 4		oil <0.5	<0.1	<0.1	<0.1	<0.2	<0.1 <0	0.5	<0.5 <0		5 <0.	5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	<50	<50	<20	<50	<100	<50 <	<100 <	<100 <2	20 <50
		MW02/0.2 20/06/22 0		oil <0.5	<0.1	<0.1	<0.1	<0.2	<0.1 <	0.5	<0.5 <0			_				<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	65	77	<20	<50			120 <	<100 <2	20 <50
		MW02/4.5 20/06/22 4	_		<0.1	_	<0.1			_	<0.5 <0	_			_			<0.5	<0.5		<0.5	<0.5			<0.5	<0.5	<0.5	<20	<20	160	120	<20	_					20 <50
		MW03/0.2 20/06/22 0 MW03/4.5 20/06/22 4			<0.1		<0.1				<0.5 0. <0.5 <0					3.2		<0.5	4.3	<0.5	1.4	<0.5 <0.5			28 <0.5	<0.5	<0.5	<20 <20	<20 <20	170 <50	140 <50	<20 <20						20 <50 20 <50
301484 322	2-3110003788	10100374.3 20/00/22 4	.5 5	0.5	V0.1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	VO.1	V0.2	VO.1 V	5.5	<b>10.5</b>   <b>10</b>	.5 \ \0	, \0	0.5	10.5	10.5	10.5	10.5	\0.5	<b>VO.</b> 5	<b>VO.</b> 5	<b>VO.</b> 5	<b>\(\)</b>	10.5	<b>VO.</b> 5			\20	\20	\ 30		\20		100	<u> </u>	100	100   12	20   130
Statistics																																						
Number of Results	-			26	26	26	26	_		_	26 2	_	_			26	26	26	26	26	26	26			26	21	21	26	26	26	26	26	26	26				26 26
Number of Detects	-			0	0	0	0	0		_	2 5	_			6	5	7	3	8	3	5	2	7	8	9	0	0	0	9	20	20	0	4	20				0 4
Minimum Concent	tration			<0.5	<0.1	<0.1	<0.1				<0.5 0.							<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<20	<20	<50	<50	<20						20 <50
Maximum Concent	ntration			ND <0.5	ND <0.1	ND <0.1	ND <0.1			-	0.6 0. 2 8.				0.6 4.3	1.6 8.1	0.5 12	0.7 1.6	0.9 28	0.7 2.4	0.7 4.3	0.7 <5	0.5	27	1 150	ND <0.5	ND <0.5	ND <20	24 <200	55 1,100	51 1,500	ND <20			127 1 2,600 3,			ID 53 20 <500
Maximum Detect				ND ND	ND	ND	ND			_	2 8.	_	_		4.3		12	1.6	28	2.4	4.3	0.7			150	ND	ND	ND	120		-				2,600 3,		_	ID 200
Average Concentra	ation *			0.25	0.05	0.05	0.05	0.1			0.33 0.8				0.62			0.36	2.9		0.69	0.37			15	0.25	0.25	10	26	210	201	10	49	344	422 4	476 1	149 1	10 49
Median Concentra				0.25	0.05	_	0.05				0.25 0.2		_	_			0.25			0.25					0.25	0.25	0.25	10	10	120	98.5	10	25					10 25
Standard Deviation				0	0	0	0	0		_	0.35 1.	_	_					0.34	6.8	0.45	1.1	0.45		6.7	38	0	0	0	29	295	314	0	59				_	0 59
95% UCL (Student' % of Detects	rs-t) *			0.25	0.05	0.05	0.05	_		522 ( 12	0.447 1.3 8 1						2.521	12	5.163 31	0.534				5.148 2 31		0.25	0.25	10 0		308.9 77	306.6 77	10 0	68.37 15		627.9 74			0 68.37
% of Detects % of Non-Detects				100	100		100	100		_	92 8				77	81	73	88	69	88	19 81	8 92	73	69	35 65	100	100	100	35 65	23	23	100	85 85					0 15 00 85
* A Non Detect Mu		has been applied		100	00						J_   0		, , ,	. 02	· · ·	_ 01		_ 50	- 55	- 55						-50	_50		, 33									

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C) HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A) 2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay 2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay 2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil 2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

#### 6. Soil Asbestos



						Asbe	stos						Asbest	tos										
						S Bonded Asbestos	Friable Asbestos (FA & AF)	ACM - Comment	AF - Comment	% Analysed Material	Approximate Sample Mass	Comment As bestos Reported Result	% Extraneous Material	% lron (%)	Mass ACM	Mass AF	Mass Asbestos in ACM	Mass asbestos in AF	Mass Asbestos in FA	Mass Asbestos in FA & AF		Organic Fibres -	Respirable Fibres - Comment	Synthetic Fibres - Comment
EQL							/6W/W	Comment	Comment	0.1	g	Comment	0.1	0.01	В	В	В	g	g	g	g	Comment	Comment	Comment
NEPM 2013 Table 7 Rec C H: NEPM 2013 Table 7 Rec C H:				asbesto	s)	0.02%	0.001%																	
Lab Report Number	Sample Code	Field ID	D-4-	Danth	Madrin Tons																			
901484	S22-Jn0063769		Date 21/06/22		Matrix Type Soil	0	0	-	-		523	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		61	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063770	вно2/0.2	21/06/22	0.2	Soil	0	0	-	-		584	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		2	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063771	вн03/0.2	21/06/22	0.2	Soil	0	0	-	-		433	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		3.7	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063772	BH04/0.2	21/06/22	0.2	Soil	0	0	-	-		366	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		4.1	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063773	вн05/0.2	21/06/22	0.2	Soil	0	0	-	-		589	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		18	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063774	вн06/0.2	21/06/22	0.2	Soil	0	0	-	-		383	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. ACM: Chrysotile and crocidolite asbestos		13	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063775	вно7/0.2	21/06/22	0.2	Soil	0.0383	0	-	-		596	detected in fibre cement fragments. Approximate raw weight of ACM = 4.6g Total estimated asbestos content in ACM = 0.23g* Total estimated asbestos concentration in ACM = 0.038% w/w* Organic fibre detected. No trace asbestos detected.		1	4.5676	0	0.2284	0	0	0	0	-	-	-
901484	S22-Jn0063776	внов/ 0.2	21/06/22	0.2	Soil	0	0	-	-		434	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		7	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063777	вн09/0.2	21/06/22	0.2	Soil	0	0	-	-		503	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		3.2	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063778	BH10/0.2	20/06/22	0.2	Soil	0	0	-	-		530	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		2.4	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063779		20/06/22		Soil	0	0	-	-		535	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		3.7	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063780 S22-Jn0063781		20/06/22		Soil	0	0	-	-	82	561	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre	18	5.5	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063782	BH12/2.5	20/06/22	2.5	Soil							detected. No trace asbestos detected.												
901484	S22-Jn0063783		20/06/22		Soil	0	0	-	-	69	637	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.	31	1.8	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063784 S22-Jn0063785		20/06/22		Soil	0	0	-	-	97	767	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre	2.8	2.1	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063786	BH14/1.0	20/06/22	1	Soil							detected. No trace asbestos detected.												
901484	S22-Jn0063793	BH15/0.2	20/06/22	0.2	Soil	0	0	-	-	63	536	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.	37	58	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063794	BH15/2.0	20/06/22	2	Soil							No asbestos detected at the reporting							$\dashv$	7	$\dashv$			
901484	S22-Jn0063789 S22-Jn0063790				Soil	0	0	-	-		490	limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		40	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063790				Soil	0	0	-	-	72	726	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre	28	28	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063792	MW02/4.5	20/06/22	4.5	Soil							detected. No trace asbestos detected.												
901484	S22-Jn0063787				Soil	0	0	-	-		596	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.		3.5	0	0	0	0	0	0	0	-	-	-
901484	S22-Jn0063788	MW03/4.5	20/06/22	4.5	Soil																			
Statistics		I										I							. 1	.	. 1			
Number of Results Number of Detects						18 18	18 18			5	18		5	18	18 18	18 18	18	18 18	18 18		18 18			
Minimum Concentration						0	0			63	366		2.8	1	0	0	0	0	0	0	0			
Minimum Detect						0	0			63	366		2.8	1	0	0	0	0	0	0	0			
Maximum Concentration						0.0383	0			97	767		37	61	4.5676	-	0.2284	0	0	0	0			
Maximum Detect						0.0383	0			97	767		37	61	4.5676		0.2284	0	0	0	0			
Average Concentration * Median Concentration *						0.0021	0			77 72	544 535.5		23	3.9	0.25	0	0.013	0	0	0	0			
Standard Deviation *				1		0.009	0			13	105		13	19	1.1	0	0.054	0	0	0	0			
95% UCL (Student's-t) *						0.00583	0			89.29	587		36.13	22.31	0.695		0.0348	0		0	0			
% of Detects						100	100			100	100		100	100	100	100			100	$\rightarrow$				
% of Non-Detects  * A Non Detect Multiplier of	f 0.5 has been app	plied.				0	0			0	0		0	0	0	0	0	0	0	0	0			

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 18(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HLL C)

HEPA, January 2020, PFAS NEMP 2020 Public open space (HLL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILS Res A Soil

2013, NEPM 2013 Table 1A(1) HILS Rec C Soil

#### 7. Soil Phenols



									_						Phen	ols									
						3&4-Methylphenol	g 2,4,5-Trichlorophenol	8 2,4,6-Trichlorophenol	gy/8 2,4-Dichlorophenol	8/8/2,4-Dimethylphenol	gy/8a 2,4-Dinitrophenol	8/8/2,6-Dichlorophenol	gy/gm	g/ga/2-Methylphenol	2-Nitrophenol	କ୍ଷ 4,6-Dinitro-2- ନ୍ଧ methylphenol	a 4,6-Dinitro-o-cyclohexyl	% 4-chloro-3- 8x methylphenol	mg/kg 4-Nitrophenol	gy/gm	gy/gm ga/ga ga/ga ga/ga ga/ga ga/ga	% Tetrachlorophenols	oneyd mg/kg	Phenols (Total	ନ୍ଧୁ Phenols (Total Non ନ୍ଧୁ Halogenated)
EQL						0.4	1	1	0.5	0.5	5	0.5	0.5	0.2	mg/kg 1	5	20	1	5	0.5	1	10	0.5	1	20
NEPM 2013 Table 1B(7) Man	agement Limits in	n Res/Parklan	d, Fine Soil			9	_	_		9.0	, i		0.0	0.12		J		_		0.0		- 0		_	
NEPM 2013 Table 7 Rec C HS	L for Asbestos in S	Soil																							
PFAS NEMP 2020 Ecological of	direct exposure																								
PFAS NEMP 2020 Public oper																									
PFAS NEMP 2020 Residential			-																						
NEPM 2013 Table 1A(3) Rec (																									
NEPM 2013 Table 1A(3) Res A																									
NEPM 2013 Table 1B(5) Gene			pen Space																						
NEPM 2013 Table 1B(6) ESLS		ne Soli																		400	100		2,000		
NEPM 2013 Table 1A(1) HILS NEPM 2013 Table 1A(1) HILS																				400	100 120		3,000 40,000		
THE WI ZOTO TABLE TA(T) HILS	nee e soli																			4,000	120		40,000		
Lab Report Number	Sample Code	Field ID	Date	Denth	Matrix Type																				
901484	S22-Jn0063769		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063770	<del></del>	21/06/22		Soil	0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063771		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063772		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063773		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063774		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063775		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063776		21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063777	<del></del>	21/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063778		20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063779		20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063780		20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484			20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063782		20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063783	BH13/0.2	20/06/22		Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063784	BH13/2.5	20/06/22	2.5	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063785	BH14/0.2	20/06/22	0.2	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063786	BH14/1.0	20/06/22	1	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063793	BH15/0.2	20/06/22	0.2	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063794	BH15/2.0	20/06/22	2	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063789	MW01/0.2	20/06/22	0.2	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063790	MW01/4.5	20/06/22	4.5	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063791	MW02/0.2	20/06/22	0.2	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063792				Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063787			_	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
901484	S22-Jn0063788	MW03/4.5	20/06/22	4.5	Soil	<0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
Statistics																									
Number of Results						26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Number of Detects	-					1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration						0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
Minimum Detect						0.4	ND	ND	ND	ND	ND -	ND	ND	ND	ND	ND	ND	ND	ND -	ND	ND	ND	ND	ND	ND
Maximum Concentration						0.4	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.2	<1	<5	<20	<1	<5	<0.5	<1	<10	<0.5	<1	<20
Maximum Detect						0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND -	ND	ND	ND
Average Concentration *						0.21	0.5	0.5	0.25	0.25	2.5	0.25	0.25	0.1	0.5	2.5	10	0.5	2.5	0.25	0.5	5	0.25	0.5	10
Median Concentration *						0.2	0.5	0.5	0.25	0.25	2.5	0.25	0.25	0.1	0.5	2.5	10	0.5	2.5	0.25	0.5	5	0.25	0.5	10
Standard Deviation *						0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *						0.221	0.5	0.5	0.25	0.25	2.5	0.25	0.25	0.1	0.5	2.5	10	0.5	2.5	0.25	0.5	5	0.25	0.5	10
% of Detects						4	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	0.5.b					96	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
* A Non Detect Multiplier of	u.5 nas been app	πeα.																							

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C) HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

#### 8. Water PFAS



HB/Γ	2   2   2   2   2   2   2   2   2   2
EQL   0.001   0.001   0.0001   0.0001   0.005	0.001 0.000005 0.00000 0.22
PFAS NEMP 2020 Freshwater 95%         0.00013         0	0.22
PFAS NEMP 2020 Interim Marine 95% Under	
Lab Water	0.22
TOPOIL TABLE WIGHTIN	
Number Sample Code Field ID Date (mbgs) Type	
902403 \$22-I0001340 MW01 28/06/22 6 Water <0.001 <0.001 <0.0001 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <	0.024 <0.000005 0.000017
902403 \$22-I0001341 MW02 28/06/22 3 Water <0.001 <0.001 <0.0001 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <	0.01 <0.000005 0.000010
902403 \$22-I0001342 MW03 28/06/22 2 Water <0.001 <0.001 <0.0001 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <	0.52 <0.000005 0.00034
Statistics	
Number of Results 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3
Number of Detects 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 3 0 0 0 1 3 0 0 1 0 2 2 3 2 0 0 0 3 3 3 3	3 0 3
Minimum Concentration   <0.001   <0.0001   <0.0000   <0.005   <0.005   <0.005   <0.005   <0.005   <0.005   <0.005   <0.005   <0.005   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.001   <0.0	0.01 <0.000005 0.00001
Minimum Detect ND	0.01 ND 0.00001
Maximum Concentration          <.0.001         <0.0001         <0.0000         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005         <0.0005	0.52 <0.000005 0.00034
Maximum Detect ND	0.52 ND 0.00034
Average Concentration * 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0005	0.18 0.0000025 0.00012
Median Concentration *         0.0005         0.0005         0.00005         0.0005         0.0025         0.0025         0.0025         0.0005         0.0005         0.0025         0.0025         0.0005         0.0015         0.018         0.015         0.025         0.00000         0.005         0.0005         0.005         0.005         0.018         0.018	0.024 0.0000025 0.000017
Standard Deviation * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.29 0 0.00019
95% UCL (Student's-t) * 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0005	0.674 0.0000025 0.0004401
% of Detects 0 0 0 0 0 0 0 0 0 0 0 0 0 0 33 100 0 0 0	100 0 100
% of Non-Detects 100 100 100 100 100 100 100 100 100 10	0 100 0

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

# Environmental Standards ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

## 9. Water Phenols, CH, HB and Herb



												Ph	enols												Chlorinated H	ydrocarbons	;	Halogenated Benzenes Herbicides												
	384 Mathurhanol	(m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol		2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-	4,6-Dinitro-o-cyclohexyl	4-chloro-3- methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Tetrachlorophenols	Phenol	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Benzal Chloride	Benzotrichloride	Benzyl chloride	Hexachlorobutadiene	Hexachlorocyclopentadi ene	Hexachloroethane	1,2,3,4-	1,2,3,5- Tetrachlorobenzene	1,2,3-trich lorobenzene	1,2,4,5- tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Dinoseb
EQL		g/L 6	μg/L 10	μg/L 10	μg/L			mg/L 0.03	μg/L 3	μg/L	μg/L	μg/L 10	μg/L 30	μg/L 100	μg/L 10	μg/L 30	mg/L 0.01	μg/L 10	μg/L 30	μg/L	mg/L 0.01	mg/L 0.1	μg/L 0.1	μg/L 0.1	mg/L 0.005	μg/L 5	μg/L	μg/L	mg/L 0.005	mg/L 0.005	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L 5	μg/L	μg/L 100
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs			10		160			0.045	J	490		10	30	100	10	30	0.01	10	30	320	0.01	0.1	0.1	0.1	0.005	3		360	0.004	0.005	10	7	170	160	13	260	60	-	2	100
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs				20	100			0.045		130								22		400								300	0.004	0.005	10	5	80	100	13	200	- 00		2	
PFAS NEMP 2020 Freshwater 95%																																								
PFAS NEMP 2020 Interim Marine 95%																																								
NEPM 2013 Table 1C GILs, Fresh Waters				3	120			0.045		340								3.6		320								290			3		85	160		260	60			
NEPM 2013 Table 1C GILs, Marine Waters																		11		400													20							
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay																																								
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																																				4				4
Table   Lab Report Sample Code   Field ID   Date   (mbgs)   Mat   902403   S22-JI0001340   MW01   28/06/22   6   Wat   Wat   Code   Code   Wat   Code   Co	rix Type er	<6	<10	<10	<3	<	:3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<0.1	<0.1	<0.005	<5	<5	<5	<0.005	<0.005	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100
902403 S22-JI0001341 MW02 28/06/22 3 Wat	er ·	<6	<10	<10	<3	<	:3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<0.1	<0.1	<0.005	<5	<5	<5	<0.005	<0.005	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100
902403 S22-JI0001342 MW03 28/06/22 2 Wat	er ·	<6	<10	<10	<3	<	:3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<0.1	<0.1	<0.005	<5	<5	<5	<0.005	<0.005	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100
Statistics Number of Results		3	3	3	2			3	2	•	3	2	2	3		3	3	2	3	3	2	3	2	-	9	2	2	3	3	3	3	3		3	3		3	3		3
Number of Detects	_	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	_	<6	<10	<10	<3		-	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<0.1	<0.1	<0.005	<5	<5	<5	<0.005	<0.005	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100
Minimum Detect		ND	ND	ND	ND	_	_	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		<6	<10	<10	<3			<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<0.1	<0.1	<0.005	<5	<5	<5	<0.005	<0.005	<5	<5	<5	<5	<5	<5	<5	<5	<5	<100
Maximum Detect		ND	ND	ND	ND			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *		3	5	5	1.5	_		0.015	1.5	1.5	1.5	5	15	50	5	15	0.005	5	15	1.5	0.005	0.05	0.05	0.05	0.0025	2.5	2.5	2.5	0.0025	0.0025	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	50
Median Concentration *		3	5	5	1.5	_		0.015	1.5	1.5	1.5	5	15	50	5	15	0.005	5	15	1.5	0.005	0.05	0.05	0.05	0.0025	2.5	2.5	2.5	0.0025	0.0025	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	50
Standard Deviation *		0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *		3	5	5	1.5	1.	.5	0.015	1.5	1.5	1.5	5	15	50	5	15	0.005	5	15	1.5	0.005	0.05	0.05	0.05	0.0025	2.5	2.5	2.5	0.0025	0.0025	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	50
% of Detects		0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	1	.00	100	100	100	10	00	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
2013, NEPM 2013 Table 1C GILS, Fresh Waters
2013, NEPM 2013 Table 1C GILS, Marine Waters
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

# 10. Water Hydrocarbons, PCBs



	BTEX																	DAI											PC	`D-			Cal							TPH						$\neg$
							BIEX									au l		PAH	1			a				+			PC	.BS			Solv	/ents	+					IPF						$\dashv$
				Naphthalene (BTEX)	!	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Acenaphthene	Acenaphtnylene	Anuntacene	Benz(a)antinacene Benzo(a) pyrene		Benzo(b+J)filuoranthene	Benzo(g,h,i)perylene	Benzo(k)filuoranthene	ciii yseile	Dibenz(a,n)antnracene Fluoranthene	ore	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene Pyrene	m of total	Arochlor 1016 Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260 PCBs (Sum of total)	Methyl Ethyl Ketone	Acetone	67-93	C10-C14	C15-C28	C29-C36	C6-C10	C10-C16	C16-C34	C10-C36 (Sum of total)	C10-C40 (Sum of total)	C34-C40	F1 minus BTEX E2 minus Naphthalene	
				mg	/L μg,	/L µg/	L μg/L	μg/L	μg/L	μg/L	μg/L με	/L μg	/L µg	/L μg/	/L m	g/L μ	g/L µչ	/L μg	/L µg	/L µg/	L μg/L	μg/L	μg/L	ıg/L με	g/L µg	/L μg	/L μg/	/L µg/I	_ μg/L	μg/L	μg/L μ	g/L μg/L	μg/L				μg/L	μg/L	mg/L	mg/L n	mg/L	μg/L ι	μg/L r	ng/L r	ng/L mg/	/L
EQL				0.0	_	1	1	2	1	3	1 :	l 1	. 1	l 1	0.0	001	1 :	1 1	. :	l 1	1	1			1 1	1 5	5 5	5	5	5	5	5 5	5	0.005	20	50	100	100	0.02	0.05	0.1	100	100	0.1	0.02 0.0	.5
ANZG (2018) Freshwater 95	% LOSP Toxican	t DGVs		0.0	16 95	0 180	80		350			0.	.4	0.2	2					1.4			16						0.6		0.03															
ANZG (2018) Marine Water	95% LOSP Toxio	ant DGV	's	0.0	7 70	0 180	80					0.	.4	0.2	2					1.4			70	2																						
PFAS NEMP 2020 Freshwate	er 95%																																													
PFAS NEMP 2020 Interim M	arine 95%																																													
NEPM 2013 Table 1C GILs, F	resh Waters			0.0	16 95	0			350	550													16						0.3		0.01															
NEPM 2013 Table 1C GILs, N	Marine Waters			0.0	5 50	_																	50																							
NEPM 2013 Table 1A(4) Res	HSL A & B GW	for Vapo	ur Intrusion, Cla	/	500	00																																								
NEPM 2013 Table 1A(4) Rec	HSL C GW for \	/apour In	ntrusion, Clay																																											
Lab Report   Sample Code		T (	Water Fable [mbgs] Matrix 1																														1													
902403 S22-Jl0001340			6 Water				<1				<1 <									1 <1				<1 <		1 <		5 <5		<5		<5 <5													0.02 < 0.0	
902403 S22-Jl0001341	MW02 28/0	6/22	3 Water				$\rightarrow$	_	_	-	<1 <		-		-		-	_		1 <1		_	_	<1 <	-	1 <		5 <5		<5		<5 <5	<5												0.02 0.1	
902403 S22-Jl0001342	MW03 28/0	6/22	2 Water	<0.0	01 <1	1 <1	<1	<2	<1	<3	<1 <	1 <	1 <	1 <1	L <0.	001 -	<1 <	1 <	1 <	1 <1	. <1	<1	<1	<1 <	<1 <	1 <	5 <5	5 <5	<5	<5	<5	<5 <5	<5	<0.00	<20	<50	<100	<100	<0.02	<0.05	<0.1	<100 <	<100 <	<0.1	0.02 <0.0	J5
Statistics																																	i													
Number of Results				3		3	_	<del>                                     </del>	1	3			3 3		_			3 3		3		3	_		3 3	_	3 3		3			3 3	3	3		3	+		3		3				3 3	
Number of Detects				0			_	0	0	0	0 (		_		_	-	-	) (				0			0 (			+-	0	0		0 0	0	0	0	1	2	1	0		1	2			0 1	_
Minimum Concentration				<0.0	-		_	<2	<1	<3	<1 <	1 <	1 <	1 <1	L <0.	_	<1 <	1 <	_	1 <1		<1	<del>                                     </del>		<1 <	1 <	5 <5	5 <5		<5	<5	<5 <5	<5		5 <b>&lt;20</b>	+	100			<0.05			<100	0.1 <	0.02 <0.0	)5
Minimum Detect				NE	-	-	_		ND		ND N	_	D N	D N	_	_	ND N	D N	-	D ND	) ND	ND		ND N	ID N	D N	-		_	ND		ND ND	ND	ND	ND	90	100			0.17			L,470		ND 0.1	
Maximum Concentration				<0.0	01 <1	1 <1	<1	<2	<1	<3	<1 <	1 <	1 <	1 <1	L <0.	001 .	<1 <	1 <	1 <	1 <1	. <1	<1	<1	<1 <	<1 <	1 <	5 <5	5 <5	<5	<5	<5	<5 <5	<5	<0.00	<20	90	1,100	300	<0.02	0.17	1.2	1,490 1	.,470	0.1 <	0.02 0.1	7
Maximum Detect				NE	) NI	D ND	ND	ND	ND	ND	ND N	D N	D N	D NE	N	D I	ND N	D N	D N	D ND	) ND	ND	ND	ND N	ND N	D N	D N	D ND	ND	ND	ND I	ND ND	ND	ND	ND	90	1,100	300	ND	0.17	1.2	1,490 1	.,470	0.1	ND 0.1	.7
Average Concentration *				0.0	05 0.	5 0.5	0.5	1	0.5	1.5	0.5 0	.5 0.	.5 0.	.5 0.5	5 0.0	005 (	).5 0	.5 0.	5 0	.5 0.5	0.5	0.5	0.5	0.5 0	0.5	.5 2.	.5 2.!	5 2.5	2.5	2.5	2.5	2.5 2.5	2.5	0.002	10	47	417	133	0.01	0.073	0.43	547	523 0	.067	0.01 0.07	/3
Median Concentration *				0.0	05 0.	5 0.5	0.5	1	0.5	1.5	0.5 0	.5 0.	.5 0.	.5 0.5	5 0.0	005 (	).5 0	.5 0.	5 0	.5 0.5	0.5	0.5	0.5	0.5 0	0.5	.5 2.	.5 2.!	5 2.5	2.5	2.5	2.5	2.5 2.5	2.5	0.002	10	25	100	50	0.01	0.025	0.05	100	50 (	J.05 (	0.01 0.02	25
Standard Deviation *				0	0	0	0	0	0	0	0 (	) (	) (	0		)	0	) (	) (	0	0	0	0	0 (	0 (	) (	0	0	0	0	0	0 0	0	0	0	38	592	144	0	0.084	0.66	817	820 C	).029	0 0.08	34
95% UCL (Student's-t) *				0.0	05 0.	5 0.5	0.5	1	0.5	1.5	0.5 0	.5 0.	.5 0.	.5 0.5	5 0.0	005 0	0.5 0	.5 0.	5 0	.5 0.5	0.5	0.5	0.5	0.5 0	0.5	.5 2.	.5 2.!	5 2.5	2.5	2.5	2.5	2.5 2.5	2.5	0.002	10	109.9	1,415	376.7	0.01	0.214	1.553	1,925 1	,905 C	).115	0.01 0.21	14
% of Detects				0	0	0	0	0	0	0	0 (	) (	) (	0		)	0	) (	) (	0	0	0	0	0 (	0 (	) (	0	0	0	0	0	0 0	0	0	0	33	67	33	0	33	33	67	33	33	0 33	j
% of Non-Detects				10	0   10	0 100	100	100	100	100	100 10	00 10	00 10	00 10	0 1	00 1	00 1	00 10	0 10	00   100	) 100	100	100	100 1	00 10	00 10	00 10	0 100	100	100	100 1	.00 100	100	100	100	67	33	67	100	67	67	33	67	67	100 67	<u>/</u>

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters

2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay 2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

# 11. Water Inorganics Metals



							Inc	rganics			Lead				N	letals			
						Ammonia as N	Chloride	Cyanide Total	Nitrogen (Total)	Sulphide	Lead (filtered)	Arsenic (filtered)	Cadmium (filtered)	Chromium (hexavalent)	Chromium (III+VI) (filtered)	Copper (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)
			1			μg/L	mg/L	mg/L	μg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL						10	1	0.005	200	0.1	0.001	0.001	0.0002	0.005	0.001	0.001	0.0001	0.001	0.005
	Freshwater 95%					900					0.0034		0.0002	0.001		0.0014	0.0006		0.008
ANZG (2018)	Marine Water 9	5% LOSP	Toxicant DG	Vs		910					0.0044		0.0055	0.0044		0.0013	0.0004	0.07	0.015
NEPM 2013 T	able 1C GILs, Fre	esh Water	S					0.007			0.0034		0.0002	0.001		0.0014	0.00006	0.011	0.008
NEPM 2013 T	able 1C GILs, Ma	arine Wat	ers					0.004			0.0044		0.0007	0.0044		0.0013	0.0001	0.007	0.015
Lab Report N 902403 902403 902403 Statistics	Sample Code \$22-Jl0001340 \$22-Jl0001341 \$22-Jl0001342	MW02	Date 28/06/22 28/06/22 28/06/22	3	Matrix Type Water Water Water	90 8,700 30	1,200 660 59	<0.005 <0.005 <0.005	<200 18,000 200	<0.1 <0.1 <0.1	<0.001 <0.001 <0.001	0.001 0.009 <0.001	<0.0002 <0.0002 <0.0002	<0.005 0.024 <0.005	<0.001 0.012 <0.001	0.004 0.002 0.006	0.0001 <0.0001 <0.0001	0.014 0.005 0.003	0.064 0.086 0.030
Number of R	esults					3	3	3	3	3	3	3	3	3	3	3	3	3	3
Number of D	etects					3	3	0	2	0	0	2	0	1	1	3	1	3	3
Minimum Co	ncentration					30	59	<0.005	200	<0.1	<0.001	0.001	<0.0002	<0.005	<0.001	0.002	0.0001	0.003	0.03
Minimum De	tect					30	59	ND	200	ND	ND	0.001	ND	0.024	0.012	0.002	0.0001	0.003	0.03
Maximum Co	ncentration					8,700	1,200	<0.005	18,000	<0.1	<0.001	0.009	<0.0002	0.024	0.012	0.006	0.0001	0.014	0.086
Maximum De	etect					8,700	1,200	ND	18,000	ND	ND	0.009	ND	0.024	0.012	0.006	0.0001	0.014	0.086
Average Con	centration *					2,940	640	0.0025	6,100	0.05	0.0005	0.0035	0.0001	0.0097	0.0043	0.004	0.000067	0.0073	0.06
Median Cond						90	660	0.0025	200		0.0005	0.001			0.0005	0.004	0.00005	0.005	0.064
Standard Dev	viation *					4,988	571	0	10,306	0	0	0.0048	0	0.012	0.0066	0.002	0.000029	0.0059	0.028
95% UCL (Stu	ident's-t) *					11,350	1,602	0.0025		0.05	0.0005	0.0115	0.0001	0.0306	0.0155	0.00737	0.00011533	0.0172	0.108
% of Detects	-					100	100	0	67	0	0	67	0	33	33	100	33	100	100
% of Non-De	tects					0	0	100	33	100	100	33	100	67	67	0	67	0	0

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

2013, NEPM 2013 Table 1C GILs, Marine Waters

2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

#### 12. Waste Soil



																					Inorga																													
	Asbestos				_			NA	_			_						BTEX			nics	Lead	_		Metals		_	-				41		PAH								_				TPH				
	Bonded Asbestos Friable Asbestos (FA &	ACM - Co		Approximate Sample	Asbestos Reported Result	FA- Comment	Mass ACM	Mass AF Mass Asbestos in ACM	Mass asbestos in AF	Mass Asbestos in FA	Mass Asbestos in FA & AF	o cook	Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment Nanhthalene (RTEX)	Benzene	Toluene	Ethylbenzene Xvlene (m & n)	Xylene (o)	Xylene Total	Moisture Content (dried @ 103°C)	Lead	Cadmium	Chromium (III+VI)	Copper	Mercury	Zinc	Acenaphthene	Acenaphthylene	Anthracene Anthracene Benzíalanthracene	Benzo(a) pyrene	Benzo (b+j) fluoranthene	Benzo(g,h,i)perylene Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene Indeno(1,2,3-c,d)pyren	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total) CG-C9	C10-C14	C15-C28	C29-C36	C6-C10 C10-C16	C16-C34	C10-C36 (Sum of total)	C10-C40 (Sum of total)	E1 minus BTEX	F2 minus Naphthalene
	%w/w %w/	w Comr	ment Comment	g	comment	Comment	g	g g	g	g	g g	Con	nment	ommento	mmen mg/				kg mg/kg	g mg/kg		ng/kg mg/k		g mg/kg	mg/kg mg	g/kg mg/	/kg mg/kg	g mg/kg	mg/kg mg	ng/kg mg/	kg mg/kg	mg/kg m	g/kg mg/l	kg mg/kg	mg/kg	mg/kg mg	/kg mg/l	kg mg/kg	mg/kg n	ng/kg mg	g/kg mg/		mg/kg m		g/kg mg/kg					g mg/kg
EQL															0.5	5 0.1	0.1	0.1 0.:	0.1	0.3	1	5 2	0.4	5	5 0	0.1 5	5	0.5	0.5	0.5 0.5	5 0.5	0.5	1.5 0.5	0.5	0.5	0.5 0	.5 0.5	0.5	0.5	0.5	0.5 20	20	50	50 2	20 50	100	50 1	100 10	0 20	50
NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil (Bonder														_					_				_	_																						+				4
NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil (FA and	AF -friable 0.001	1%														0.5	65	25		45		100 40		450	200		0 200				-										10						500			_
NSW 2014 Excavated Natural Material (Absolute Max) NSW 2014 Excavated Natural Material (Max Average)																	65			15		50 20				0.5 30					0.5										10						250			
NSW 2014 Excavated Natural Material (Max Average)  NSW 2014 General Solid Waste CT1 (No Leaching)																	288			1 000		100 100	0.0	/3		4 40					0.5										00 650						10.000			
NSW 2014 General Solid Waste CT1 (No Leaching) NSW 2014 Restricted Solid Waste CT2 (No Leaching)																	1,152			4.000		400 400				16 16	_				3.2										00 2,60						40,000			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusio	Clav															- 40	1,132	2,400		4,000		400	- 00			10 10	,,,				J.2										2,00						10,000			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrus															5	7   1	2   480			110   310																		5											00 I 15	0 280
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public O															17							100																170												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil																65	105	125		45											0.7														120	1,300		5,6	00 180	120
NEPM 2013 Table 1A(1) HILs Res A Soil																						300 100	20		6,000 4	10 40	0 7,400	)												3	00									
NEPM 2013 Table 1A(1) HILs Rec C Soil																						600 300	90		17,000 8	30 1,2	00 30,000	0												3	00									
Number Sample Code Field ID Date Matrix		No asbe	I INO trace																				<u> </u>																					$\overline{}$		$\top$		$\overline{}$	$\overline{}$	$\Box$
900777 S22-Jn0058809 WC1 21/06/22 Soil	0.0000 0.000	detected reporting of 0.01%	g limit b w/w. asbestos detected.	40	-	- 0.	.0000	.0000 0.000	0.0000	0.0000	0.000		nic fibre ected.	-	- <0.	5 <0.1	<0.1	<0.1 <0.	2 <0.1	<0.3	11	37 9.9	<0.4	25	24 <0	0.1 8.	0 55	<0.5	<0.5 <	<0.5 <0.	.5 <0.5	<0.5 <	0.5 <0.5	5 <0.5	<0.5	<0.5 <0	0.5 <0.5	5 <0.5	<0.5	<0.5 <	0.5 <20	<20	<50	<50 <2	20 <50	<100	<50 <1	100 <10	JO <20	<50
900777 S22-Jn0058810 WC2 21/06/22 Soil	0.0000 0.000	No asbe detected reporting of 0.01%	d at the asbestos	52	-	- 0.	.0000 0	.000.0	0.0000	0.0000	0.000		nic fibre ected.	-	- <0.	5 <0.1	<0.1	<0.1 <0.	2 <0.1	<0.3	13	32 7.2	<0.4	19	18 <0	0.1 6.	7 43	<0.5	<0.5	<0.5 <0.	.5 <0.5	<0.5	0.5 <0.5	5 <0.5	<0.5	<0.5 <0	0.5 <0.5	5 <0.5	<0.5	<0.5 <	0.5 <20	<20	72	93 <2	<20 <50	130	165 2	240 11	0 <20	<50
900777 S22-Jn0058811 WC3 21/06/22 Soil	0.0000 0.000	No asbe detected reporting of 0.01%	at the	36	-	- 0.	.0000 0	.000.0	0.0000	0.0000	0.000		nic fibre ected.	-	- <0.	5 <0.1	<0.1	<0.1 <0.	2 <0.1	<0.3	13	36 8.0	<0.4	20	17 <0	0.1 5.	7 41	<0.5	<0.5	<0.5 <0.	.5 <0.5	<0.5	0.5 <0.5	5 <0.5	<0.5	<0.5 <0	0.5 <0.5	5 <0.5	<0.5	<0.5 <	0.5 <20	<20	<50	56 <2	<20 <50	<100	56 <1	<100 <10	00 <20	<50
Statistics																																																		
Number of Results	3 3			3					_	_	3 3					_		3 3	3	3	3	3 3	3	3	3	3 3	3	3	3	3 3	3	3	3 3	3	3	3	3 3	3	3	3	3 3	3	3	3 ?	3 3	3	3	3 3	3	3
Number of Detects	3 3			3							3 3					0		0 0			-	3 3	0	3	3	0 3	3	0	-	0 0	-	0	-	0	0	0 (	0		0	0	-		1	2 0	0 0	1	2	1 1	0	0
Minimum Concentration	0 0			36							0 0					5 <0.1		<0.1 <0.	- 1012	1010	11	32 7.2	<0.4	19	17 <	0.1 5.	7 41	<0.5	<0.5 <	<0.5 <0.	.5 <0.5	<0.5 <	0.5 <0.5	5 <0.5	<0.5	<0.5 <0	0.5 <0.5	5 <0.5	<0.5	<0.5 <	0.5 <20		<50	<50 <7	20 <50	<100	<50 <	100 <10	JO <20	<50
Minimum Detect	0 0			36							0 0					) ND		ND NI	ND ND	ND	11	32 7.2	ND	19	17 N	ID 5.	7 41	ND	ND N	ND NE	D ND	ND I	ID ND	ND	ND	ND N	D ND	ND	ND	ND N	ID NE	ND	72	56 N	ID ND	130	56 2	:40 11	LO ND	ND
Maximum Concentration	0 0			52					_		0 0			-		5 <0.1		<0.1 <0.	2 <0.1	<0.3	13	37 9.9	<0.4	25	24 <0	0.1 8	55	<0.5	<0.5 <	<0.5 <0.	.5 <0.5	<0.5 <	0.5 <0.5	5 <0.5	<0.5	<0.5 <0	0.5 <0.5	5 <0.5	<0.5	<0.5 <	0.5 <20	<20	72	93 <7	20 <50	130	165 2	:40 11	J <20	<50
Maximum Detect	0 0			52					_		0 0			-	_	ND ND		ND NI	ND	ND	13	37 9.9	ND	25	24 N	ID 8	55	ND	ND N	ND NE	D ND	ND I	ID ND	ND ND	ND	ND N	D ND	ND ND	ND	ND N	ID NE	ND	72	93 N	D ND	130	165 2	.40 11	LO ND	140
Average Concentration *	0 0			43							0 0					5 0.05		U.05 0.	0.05	0.15	12	35 8.4	0.2	21		.05 6.	8 46	0.25	0.25 0	J.25 0.2	5 0.25		25 0.25		0.25	0.25 0.	25 0.25	0.25	0.25	0.25 0.	.25 10	10	41	30 1	10 25	77	82 1	113 70		25
Median Concentration *	0 0			40					_		0 0			-			0.05		0.05	0.15	13	36 8	0.2	20	18 0.	.05 6.	/ 43	0.25	0.25 0	J.25 0.2	5 0.25	0.25 0	25 0.25	0.25	0.25	0.25 0.	25 0.25	0.25	0.25	0.25 0.	.25 10	10	25	56 1	10 25	50	56	50 50		25
Standard Deviation *	0 0			8.3							0 0					0		0 0	0	0	1.2	2.6 1.4	0	3.2	3.8	U 1.	2 7.6	0	0	0 0	0	0	0 0	0	0	0 (	0	0	0	0	0 0	0	27	34 (	J 0	46		110 35		0
95% UCL (Student's-t) * % of Detects	0 0			56.7 100				100 100			0 0			-		5 0.05		0.05 0.	0.05	0.15	14.28	100 100	0.2	100	26.05 0.	.05 8.7	44 59.1	0.25	0.25 0	0.25	0.25	0.25 0	25 0.25	0.25	0.25	0.25 0.	25 0.25	0.25	0.25	0.25 0.	.25 10	10	86.41 1	110.4	10 25	154.5		98.3 128 33 33		25
	100 100					_								-		_		0 0			100	100 100			100	0 10	100	100	100 -	100 10	0 100	100	0 0	100	100	100 1	0 (00	100	0	100 1	0 0	0	53		0 0					0
% of Non-Detects	0 0			0			U	υ   0	U	U	0 0				10	0 100	100	100   10	100	100	U	υ   0	100	U	0 1	00 0	0	100	100   1	100   10	U 100	100   1	υυ   100	100	100	100 10	JU   100	100	100	100   1	υυ   100	100	6/	33   10	100 100	67	33 6	67 67	/ 100	100

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

NEPM, 2013, NEPM 2013 Table 7 Rec A HSL for Asbestos in Soil

NEWR, 2013, NEPM 2014, NSW 2014 Excavated Natural Material (Absolute Max)

NSW EPA, November 2014, NSW 2014 Excavated Natural Material (Max Average)

NSW EPA, November 2014, NSW 2014 General Soild Waste CT1 (No Leaching)

NSW EPA, November 2014, NSW 2014 Restricted Soild Waste CT2 (No Leaching)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/8 Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/8 Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/8 Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(1) HILS Res A Soil

2013, NEPM 2013 Table 1A(1) HILS Res A Soil

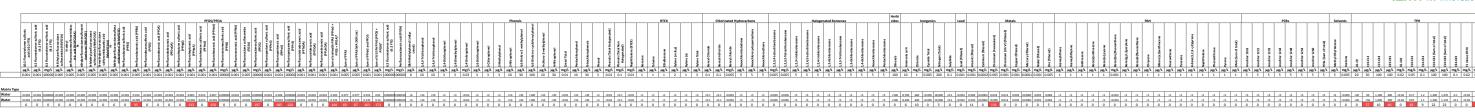
13. Duplicate Soil					iEnvi III integrity.
	Asbestos	Particle Size PFAS	Phenois STEX	Halogenated Benzenes Herbicides Lead Metals	PAH PCBs TPH
	Section (1) A comment of the comment	MARIA AMAZIANIA IN R. A.	A Control part of the Control of the	Personal desiration of the state of the stat	Action (1921)  Action
	%w/w %w/w CommenComment g CommenComment % g g g g g	g g % commentcomment % MG/KG µg/kg µg/kg µg/kg mg/kg m	mg/kg	ng/kg mg/kg	he mathe mat
EQL  Lab Report Matrix Number Laboratory Field ID Date Type	0.01	1   1   0.0002   5   0.2   5   0.0005   0.0002   0.4   0.5   0.5	05 05 05 05 02 05 5 20 05 5 05 1 10 05 1 20 05 01 01 01 02 01 03 005	0.05 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	0.5   0.5
901484 Eurofins BH01/0.2 21/06/22 Soil	0 0 Nii Nii 523 Nii Nii 61 0 0 0 0 0	0 0 Nil Nil Nil 18 <0.005 <5 <5 <5 <0.01 <0.005 <0.4 <1 <1	40.5   40.5   45   40.5   40.5   40.2   41   45   420   41   45   40.5   41   410   40.5   41   420   40.5   41.1   40.1   40.1   40.1   40.2   40.1   40.3   40.05	0.05 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	0 0.7 2 83 12 9.6 7 3 7 12 13 28 24 4.1 <5 22 27 150 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.
901484 Eurofins Q501 21/06/22 Soil		40.005 <5 <5 <5 <0.01 <0.005 <0.4 <1 <1	40.5 40.5 45 40.5 40.5 40.5 40.2 41 45 420 41 45 40.5 41 410 40.5 41 420 40.5 40.1 40.1 40.1 40.2 40.1 40.3 40.05		0 0 0 0 28 0 28 0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RPD				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 33 76 99 27 48 39 31 14 74 7 55 91 22 0 86 57 55 0 0 0 0 0 0 0 0 0 28 23 15 0 14 13 7 5 17 0 14
country Investor Investor Investor In-1				00 00 00 00 00 00 00 00 00 00 00 00 00	
501464 EURORIUS BH01/0.2 21/06/22 508	0 0 NI NI 523 NI NI 61 0 0 0 0	0 0 Ni Ni Nii 18 00.00 C C C C C 00.01 00.00 0.4 C C	05 05 05 05 05 05 05 05 05 05 05 05 05 0	105 05 05 05 05 05 05 05 05 05 05 05 05 0	0 07 2 83 12 95 7 3 7 12 13 26 24 41 63 13 14 15 15 16 24 15 16 16 17 16 16 16 17 16 16 17 16 16 17 16 16 16 16 16 16 16 16 16 16 16 16 16
RPD CONTROL OF THE PROPERTY OF		0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 25 0 33 19 40 0 140 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
901484 Eurofins BH04/0.2 21/05/22 Soil	0 0 Nii Nii 366 Nii Nii 4.1 0 0 0 0 0	0 0 Nii Nii Nii 9.8 < 0.005 <5 <5 <5 <0.01 <0.005 <0.04 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	0.5 0.5 0.5 0.5 0.5 0.5 0.2 0.1 0.3 0.2 0.1 0.5 0.5 0.5 0.5 0.1 0.1 0.1 0.1 0.2 0.1 0.3 0.05	0.05	5 40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.
901484 Eurofins Q502 21/06/22 Soil		0.005 45 45 45 40.01 40.005 40.4 41 41	40.5 40.5 45 40.5 40.5 40.5 40.5 41. 45 420 41 45 40.5 41 410 40.5 41 420 40.5 40.1 40.1 40.1 40.2 40.1 40.3 40.05	0.05 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	0 405 405 405 405 405 405 405 405 405 40
RPD		0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

\*\*RPDs have only been considered where a concentration is greater than 1 times the EQL

\*\*Plowaged EPDs are highlighted as per QACC Profile settings (Acceptable 8PDs for each EQL multiplier range are: 30 (1-10 x EQL); 30 (10-30 x EQL); 30 (10-30

14. Duplicate Water

iEnvi III integrity.



\*RPDs have only been considered where a concentration is greater than 1 times the EQL.

\*\*Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 30 (1 - 10 x EQL); 30 (10 - 30 x EQL); 30 (> 30 x EQL) )

# 15. Field Blanks



				BTEX						TPH		
			Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	62-93	с6-С10	F1 minus BTEX
			mg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L
EQL			0.01	1	1	1	2	1	3	20	0.02	0.02

Lab Repo	rl Sample Code	Field ID	Date	Matrix Type	Sample Type										
901484	S22-Jn0063797	TB01	20/06/22	Water	Trip_B	< 0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02
901484	S22-Jn0063798	TB02	21/06/22	Water	Trip_B	<0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02
901484	S22-Jn0063799	RB01	20/06/22	Water	Rinsate	<0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02
901484	S22-Jn0063800	RB02	21/06/22	Water	Rinsate	<0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02
902403	S22-JI0001344	RB01	28/06/22	Water	Rinsate	<0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02
902403	S22-JI0001345	TB01	28/06/22	Water	Trip_B	<0.01	<1	<1	<1	<2	<1	<3	<20	<0.02	<0.02



# **APPENDICES**

# Appendix A. Photo Log



**Photo 1:** 18/05/2022 - Layout of the school as displayed at the entrance gate.



Photo 2: 20/06/2022 - BH14 sample location in the northeast of the site, looking east.

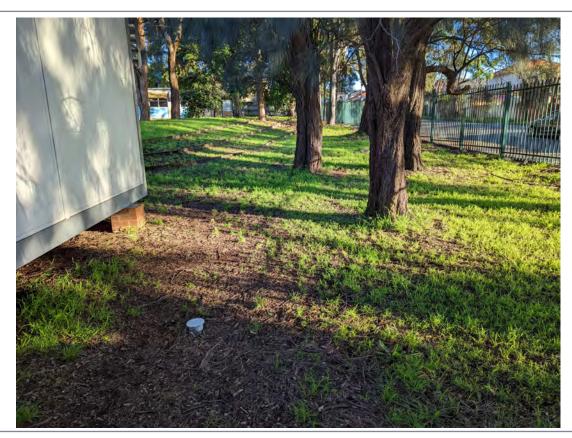


Photo 3: 20/06/2022 - lunch area near BH03, looking south.



Photo 4: 20/06/2022 - BH08 sample location, looking east.



Photo 5: 21/06/2022 - Waste soil in skip bin (approx 100 kg).



**Photo 6:** 28/06/2022 - MW01 location on the mound at the south of the site, looking north.



Photo 7: 28/06/2022 - MW02 location on the at the east of the site, looking east.



**Photo 8:** 28/06/2022 - MW03 location in the car park at the south of the site.



**Photo 9:** 28/06/2022 - Turbid groundwater sampled from MW03.

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix B. Proposed Conceptual Design



Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix C. Dial Before You Dig Information



# **Job No 31947578**

Phone: 1100 www.1100.com.au

**Caller Details** 

Contact: iEnvironmental Australia Caller Id: 3028229 Phone: (07) 3924 6177

Company: iEnvironmental Australia Pty Ltd

Address: Unit 25A/1631 Wynnum Road Tingalpa

Tingalpa OLD 4173 Email: dbyd@ienvi.com.au

# **Dig Site and Enquiry Details**

<u>WARNING:</u>The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference:20220303Working on Behalf of:Private

**Enquiry Date: Start Date: End Date:** 16/05/2022 23/05/2022 10/06/2022

Address:

3 Stanley Street Concord NSW 2137

Job Purpose: Onsite Activities:

Excavation Manual Excavation, Mechanical Excavation

Location of Workplace: Location in Road:

Private

- . Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the
  plans or how to proceed safely, please contact the relevant asset owners.

#### Notes/Description of Works:

Not supplied

# **Your Responsibilities and Duty of Care**

- The lodgement of an enquiry <u>does not authorise</u> the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- · By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

#### **Asset Owner Details**

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.

Additional time should be allowed for information issued by post. It is <u>your responsibility</u> to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is <u>your responsibility</u> to identify and contact any asset owners not listed here directly

\*\* Asset owners highlighted by asterisks \*\* require that you visit their offices to collect plans.

# Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
211392258	Ausgrid	(02) 4951 0899	NOTIFIED
211392262	City of Canada Bay	(02) 9911 6555	NOTIFIED
211392259	FibreconX Pty Ltd	0420 985 185	NOTIFIED
211392261	Jemena Gas South	1300 880 906	NOTIFIED
211392256	NBN Co NswAct	1800 687 626	NOTIFIED
211392260	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
211392263	Sydney Water	13 20 92	NOTIFIED
211392257	Telstra NSW Central	1800 653 935	NOTIFIED
211392264	Transport for NSW	(02) 8837 0285	NOTIFIED

END OF UTILITIES LIST

# **Reading Ausgrid Plans**

**COMN0119** 

## 1 Property Lines

"property line" (PL), sometimes referred to as "building line" (BL), is the standard dimensioning reference point on all Ausgrid plans and represents property boundaries.

Typically, the PL is the boundary between private property and local council's footpath area or nature reserve. Most residential fences and office blocks are erected along the PL.

"kerb line" (KL) is less frequently referred to on Ausgrid plans, and where used will be identified clearly as KL.

Numbers listed within property boundaries should correspond to recognised "street numbers" (refer to figure 1).

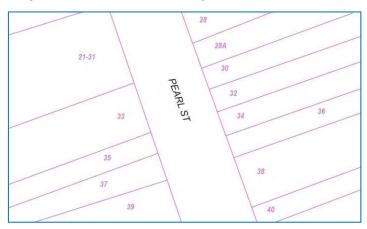


Figure 1

## 2 Datum References

"datum references" identify distances (in metres) from significant features (such as corners of property boundaries) to reference points such as Ausgrid assets (eg: "conduits", "cables", "joints") (refer to figure 2).

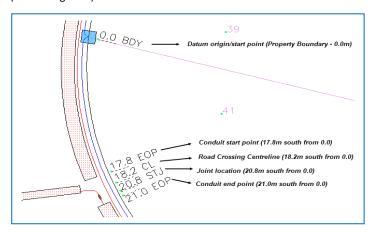


Figure 2

#### **3** Cross Sections

A "cross sections" displayed on Ausgrid plans detail information relating to the relative position (ie: distance from the "property line", and the depth of "cover") of Ausgrid assets.

"Cover" is a term used to refer to the depth of cables underground.

A "cross section" leader line will be drawn indicating the location of the displayed "cable" or "conduit" information on Ausgrid plans.

The distance from "property line" (in metres) and depth of "cover" (in metres) references are displayed as; ie: 0.6 metres from PL and 0.5 metres underground.

Where distance and cover are not recorded, they will be clearly marked as "NR".

NOTE: Distance and cover where indicated may be different to the actual position of the cables (eg: fill may have been placed at site that has changed the ground level).

"PL" distance shown in cross sections is an indicative measure to the centre of the trench allocation from the adjacent property line.

On some plans the "cross sections" may also be shown with a specific number (eg: HR1). This number will match with a cross section detail found in the border of the plot or on a separate plot page (refer to figures 3 and 4).

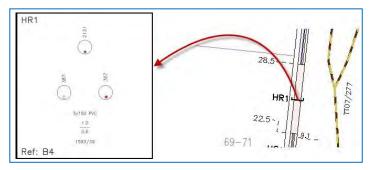


Figure 3

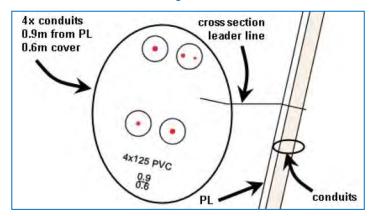


Figure 4

# 4 Cable Joints and Joint Reports

"cable joints" (numbered individually) and "joint reports" (attached to Ausgrid plans) can provide information relating to the relative position of Ausgrid assets, distance from the "property line" (in metres), and the depth of "cover" (in metres) (refer to figures 5 and 6).

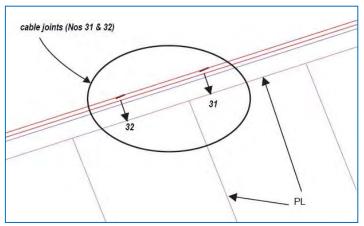


Figure 5

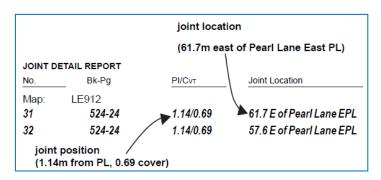


Figure 6

## 5 Cross Section Detail Boxes

"cross section" detail boxes on the sides of an Ausgrid plan are used when there is insufficient room to display "cable" and/or "conduit" information on the Ausgrid plan.

Ausgrid plans (refer to figure 7) are bordered by numeric identifiers along the top and bottom borders and alpha identifiers along the side borders.

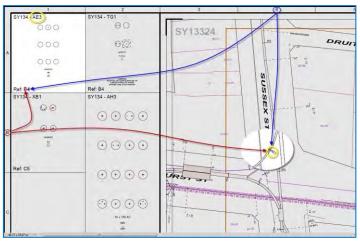


Figure 7

"Cross section" leader line and annotation is drawn on the Ausgrid plan for a reference to "cable" and/or "conduit" information in the "cross

#### 6 Pits

Underground "pits" are numbered on Ausgrid plans, positioned relative to the "property line" (PL), and can be found on either the footpath (nature strip) or the road (refer figure 8).

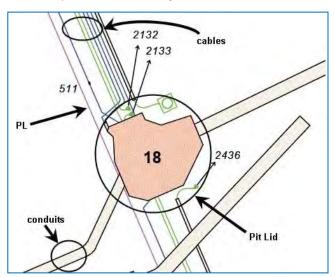


Figure 8

# 7 Proposal Areas

**section"** detail boxes. There are areas where underground work may have been issued for construction by Ausgrid, but details are not yet completely displayed on Ausgrid plans. In such cases a shaded "proposal area" is displayed on the Ausgrid plan, indicating underground work may have commenced in the vicinity but is not yet complete.

In some instances, cables and other assets within the shaded **"proposal area"** will be shown in a **bright magenta** colour, indicating that the proposed new work displayed within the shaded area is based on initial planning documentation (refer to figure 9).

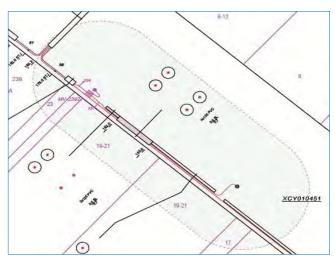


Figure 9

In other instances, the shaded "proposal area" itself may be shown as a blue colour, indicating that the new work displayed within the shaded area on the Ausgrid plan is yet to include details regarding final depths and dimensioning (refer to figure 10).

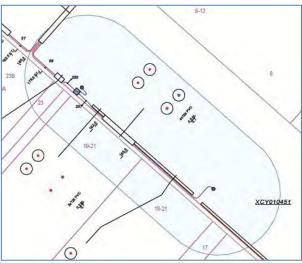


Figure 10

**NOTE:** In cases where these shaded **"proposal areas"** are displayed on Ausgrid plans.

"Ausgrid's design plans showing the proposed position of its underground cables, overhead lines and structures have been prepared solely for Ausgrid's own planning use. They show the proposed position of such underground cables, overhead lines and structures as proposed at the time of planning and have not necessarily been corrected to take into account any changes to road widths, road levels, fences and buildings subsequent to proposed installation.

Actual installations may vary from proposed installations as it may be necessary to take account of unforeseen above ground or subterranean constructions. Therefore, Ausgrid does not hold out that the design plans show more than the proposed presence or absence of its underground cables, overhead lines and structures in the street and will accept no liability for inaccuracies in the information shown on such design plans from any cause whatsoever."

Any further information regarding information displayed for "proposal areas" can be obtained by contacting the Ausgrid Dial Before You Dig (DBYD) office at the number indicated on the response to your DBYD enquiry for further information.

#### 8 Ausgrid Maps

Depending on the size of the DBYD request, the response will either be a **single map area** or **a cover sheet** and several standard maps.

## 8.1 Single Map Area Response

The single map area response will have a buffer area shown on the plan that should relate to the original Dial Before You Dig request.

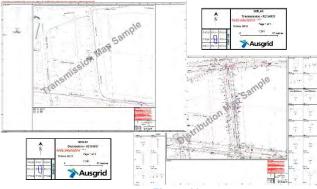


Figure 11

The **map grid index box** on Ausgrid plans should be used when reading the **"joint report"** (see part 4 of this document for more detail) to accurately locate underground cables. The buffer area will display on the grid index box for single map area responses

There are two different size maps that can be produced – A3 will be issued if there are no cross sections in the area, and an A0 will be issued if there are cross sections that are required to be displayed in the detail boxes on the side.

A single map area response could include two maps in the Sydney region. Ausgrid plans are separately labelled as "Distribution – nnnnnnn" and "Transmission – nnnnnnn", where "nnnnnn" refers to the DBYD sequence number quoted. If the request does not include any Transmission assets, then only one Distribution map will be issued.

In the Hunter region, the Ausgrid plans show combined "distribution" and "transmission" voltage assets, are clearly labelled as "Distr + Trans – nnnnnnn" where "nnnnnnn" refers to the DBYD sequence number.

Some Hunter plans may have transmission cables in the area, when these cables are present there will be a warning printed at the top of the plan supplied: ""You are working near Transmission Cables. You must contact Ausgrid on (02) 4951 9200 at least two weeks before work commences. See Ausgrid Network Standard NS156"

## **8.2 Cover Sheet Response**

On a response that includes a cover sheet, the buffer area will only be shown on the cover sheet and it will not appear on the standard maps. The cover sheet will indicate which standard maps have been included and provide a high-level view of the location of the underground details (Figure 12). The standard maps will have the detail of the underground assets (Figure 13).

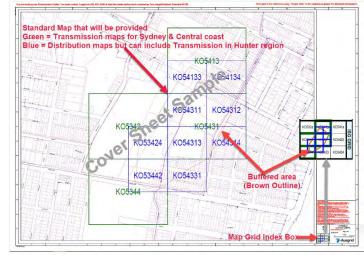
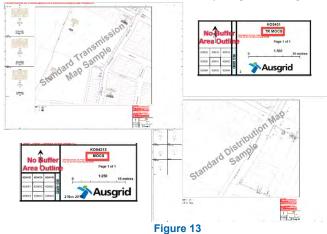


Figure 12

A map grid index box has been included in the cover sheet and on the standard maps. The buffer area will only display on the grid index box on the cover sheet and not on standard maps (Figure 12 + Figure 13).



# Shifting Land Base" on Ausgrid Distribution and Transmission Plans

In some instances, the plans supplied may indicate road or property outlines that appear to have shifted in relation to the Ausgrid assets displayed (refer to figure 14).

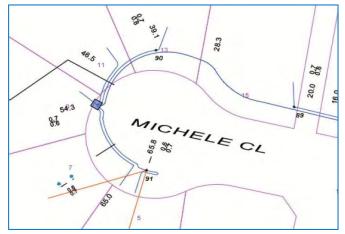


Figure 14

In such instances, always refer to the "property line" (in metres) and depth of "cover" (in metres) references displayed on the nearest relevant "cross sections" to obtain Ausgrid asset location information (see Reading Ausgrid Plans, clause 3, Cross Sections for more detail).

# 10. "Underground Earthing Infrastructure"

In some instances, the plans supplied may also indicate the presence of underground earthing infrastructure associated with underground and/or overhead Ausgrid assets.

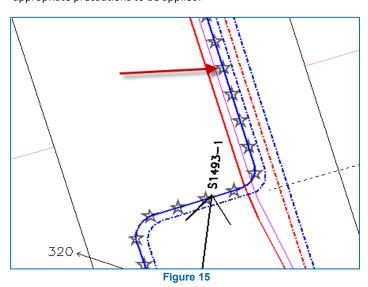
The "Earth Point" symbol (refer to figure 15) will be shown on plans to minimize risk of disturbance or damage to any Ausgrid underground earthing infrastructure in the vicinity.

Figure 15



# 11. Hazardous Cables – Specific Excavation Hazard

Certain low voltage cables are susceptible to deterioration or defects that may pose a risk of electric shock when working near them particularly in damp ground. Other low voltage cables may have an exposed conductive sheath or armour which may, under certain conditions, become energised. These cables may pose a significant risk and will be illustrated as in figures 15 and 16 below. For all work on or near Ausgrid's network where workers have been trained in Ausgrid's "Working near or around underground cables" course the work practices outlined in NS156 "Working near or around underground cables", NS199 "Safe Electrical Work on Low Voltage Underground Assets" for low voltage cables susceptible to deterioration and the Electrical Safety Rules for low voltage exposed conductive sheath or armoured cables must be adhered to. All other persons must contact Ausgrid before excavating near or accessing areas where these cables are present to arrange for appropriate precautions to be applied.



The "star" symbols over the cable indicates that it may be susceptible to deterioration or defects or the cable may contain an exposed conductive sheath or armour which could pose an electrical risk to workers.

Cables that are in duct lines have this symbology covered so an at-risk cable is indicated only within a cross section by a "#" appended to its cable code as illustrated below.

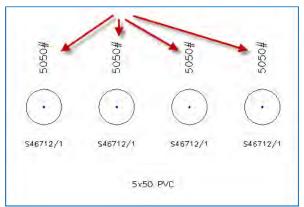


Figure 16



# **Ausgrid Underground Map Symbology**

NOTE: Please note symbology is subject to change. This document provides underground (UG) related objects only. In cases where you are unsure of the data presented, please contact Ausgrid's DBYD for clarification *prior* to any planning/excavation works.

0	bject	Symbol
HV Cable	HV (High Voltage) 5kV-22kV	In Service Out of Service
	TR (Transmission) 33kV – 330kV	In Service Out of Service
LV Cable (Low Voltage)	Mains (Dark blue)	In Service Out of Service
	Street Lighting (Green) Note: Mains Connector also used as Street Lighting (dark blue)	In Service Out of Service
	Service (Light blue)	In Service Out of Service
	Stars are used to highlight At Risk cables	In Service Risk In Service Risk In Service Risk
	Unknown	
	Data Comms	in Service
Auxiliary Cable	Telco Protection	Out of Service
	Fibre Optic Pilot	

Ol	oject	Symbol
HV UG Joint	Straight Through, Parallel Branch or Tee	
	Switchgear, End Box or Transition	
	Sealed end	
V UG ermination	Pot End	
	ÚGOĤ	
HV Cable Repair	5kV-330kV (HV & TR)	•
LV UG Joint	Straight Through, Parallel Branch, Tee or Service	
	Network Box	
LV UG Fermination	Switchgear, End Box or Transition	
	Sealed end	
	Pot End	
	UGOH	

Ol	oject	Symbol			
Auxiliary Fix	Pilot Window				
Auxiliary Joint	Straight Through, Parallel Branch or Tee				
	UGOH or Pole Termination				
Auxiliary Termination	Pilot	P			
	UGOP-ADSS Termination	•			
Cable Pit	Auxiliary				
(Can be	Distribution				
various shapes	Transmission	•			
	Distribution				
	Switch	1-3 WAY			
LV Pillar	SL Pillar	+ NO SLCP SLCP			
	SL Cubicle	*			
	Fargo	E			
	Private	P			
LV Auxiliary Pillar	All Types	****			
LV Link Box	2 Way & 4 Way				

# **Ausgrid Underground Map Symbology**

0	bject	Symbol			
Substation	Cottage & Chamber				
	Ground & Subtransmission Ground				
	Kiosk & Subtransmission Kiosk				
	Zone				
	Transmission	7			
	Bulk Supply Point	BSP			
	Metering Station & Subtransmission Metering	<b>}</b>			
Switching Station	Isolating & Earth				
	Other – OH & UG				
	Ring Main Unit				
Earthing	UG Earth Cable				
	Earth Point				
Frequency Marker	Distribution and Transmission Power	Ball or Disc Type Marker			
	Auxiliary Communications	Ball or Disc Type Marker			
	Distribution and Transmission Power	Tape Marker			
	Auxiliary Communications	Tape Marker			

O	oject	Symbol
Trench	Centreline	
Conduit [Can be	Coverage (Distribution)	
various shapes)	Coverage (Transmission)	
	Coverage (Underbore – cross hatched)	
Cross	Marker (Staple)	1 1
Section	User Line	
Measure- ment Point		•
Miscella- neous Point	Cable Clamp	•
Feature	(Trifurcation)	-
	Cable Marker	H
	Electrolysis Point	E
	End <u>Of</u> Pipe	
	Frequency Injection Unit	
	Gas Charger	[3]
	Gas Control Cabinet	
	Gas Control Kiosk	
	Gas Control Point	
	Gas Control Valve	GV
	Gatic Pit lid	

O	bject	Symbol
Miscella- neous Point	Inspection Box	
Feature	Link point	
	Oil Control Valve	Ā
	Oil Gauge	0
	Oil Tank	
	Sniffer Box	()
	Thermocouple Box	
	Transmission Cable Marker	Named Section
	Transmission Link Point	
Miscella- neous Linear Feature	All Geometries	
Map Note	Location & Text	Text about note
Dimension Feature	Placement Change	-
	Oil/Gas/ Thermocouple	
Lead Cable	Bonding	
	Electrolysis	



# Working near Ausgrid cables

Finding out what's below the surface can save your life.

Call Dial Before You Dig on **1100** or visit **1100.com.au** 





# Changes in the Law.

NSW legislation now requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through Dial Before you Dig (Phone 1100) and to make sure that the plans are no more than 30 days old when excavation commences.

The aim of the legislation is to ensure that when workers dig near electricity cables, they will establish the exact location of the cables and thus avoid coming into contact with them or damaging them. This will ensure worker safety and also prevent disruption to Ausgrid's electricity network.

This brochure gives you a brief overview of how to prepare for excavation works near or around electricity cables. It is important that you also consult our guide How to Read Ausgrid Plans and make sure that workers engaged in excavation works fully understand how to read the plan. If the people actually doing the digging can't read the plans, it is essential that the work is directed by a person who has been trained to read Ausgrid's plans.

You must also consult Ausgrid's Network Standard NS156, which contains comprehensive information concerning all the issues that arise when excavating near underground cables (such as safety hazards from asbestos conduits and organochlorine pesticides).

# Excavating near transmission cables.

If any cable plan you receive says "You are working near transmission cables" it is compulsory to notify Ausgrid two weeks before work is scheduled to begin. Ausgrid will then arrange for an Ausgrid representative to attend the site during excavation work.

Phone the Ausgrid Transmission enquiries line on (02) 4951 9200 to arrange for an Ausgrid representative in your region.



# Be prepared. Wise words for safety at work.

Here are some simple precautions you and your workers need to follow in order to be as safe as possible.

- Make sure that your Dial Before You Diq (DBYD) plan is less than 30 days old
- Keep a copy of the cable plan on site at all times
- Make sure the excavation work is conducted or directed by staff who are trained to read the plan
- Hand dig until the exact location of the cable has been established
- Have on site at all times a first aid kit and a person trained in resuscitation
- Wear protective clothing, including safety footwear and safety helmet
- Have emergency contact numbers on site
- Set up safety barriers, witches hats and warning lights to reduce the risk of injury to the general public
- Comply with all SafeWork NSW requirements and codes.

#### See also:

- SafeWork NSW Guidelines: Work Near Underground Assets
- SafeWork NSW Code of Practice: Excavation Work
- SafeWork NSW Code of Practice: Work Near Overhead Powerlines (if applicable).

# Before you start. Complete the checklist. Stop and look around.

Before you start excavating, consult the flow chart and fill in the checklist at the end of this brochure.

Then, be sure to look for clues where cables might be located on the site: for example pits, distribution pillars (green and other colours), cables attached to the side of poles, street lights without overhead wires.







# Do all power cables look the same?

No. Power cables come in different sizes, colours and coverings. They may be covered in black plastic sheath, steel wires in a sticky bitument like material, or even a simple lead or steel wire/tape sheath.

# What else should I look for below ground level?

Cables may also be buried in orange PVC or PE conduits or even in earthenware or steel pipes. A bank of cables may be covered with electrical bricks, plastic warning markers or protective covers, or they may not be covered at all. If they have been buried close to the surface, they may be covered by concrete slabs or steel plates.

# When in doubt, ask Ausgrid.

If you have any questions about excavating near Ausgrid cables, read **NS156** (available at <u>ausgrid.com.au</u>). For further information call **13 13 65**.

# You've taken every precaution but accidents still happen. What now?

If you damage an electricity cable, it is compulsory to notify Ausgrid on 13 13 88.

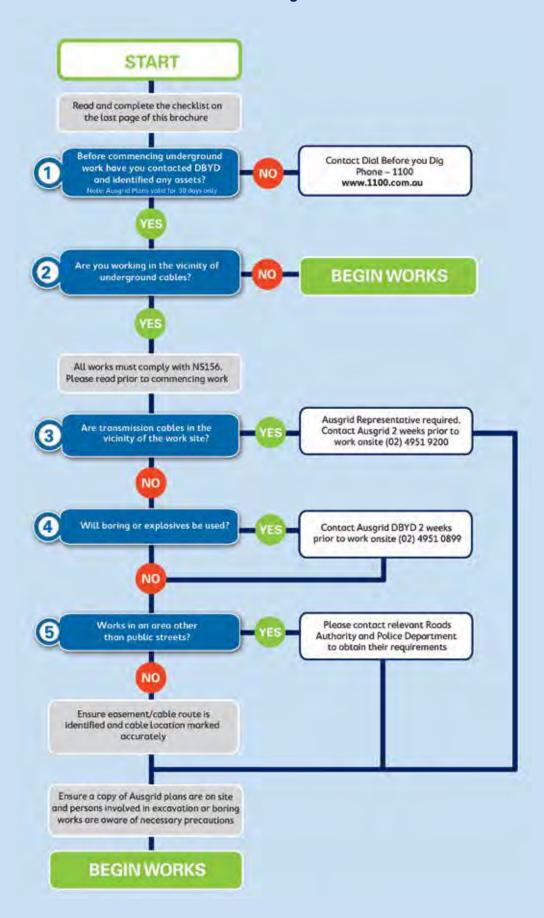
Striking power cables can cause serious damage to the cables and endanger the lives of anyone who comes in contact with them. Machinery and hand operated plant such as jack hammers can become alive if it is in contact with electrical cables or equipment. Keep people well away from machinery and the work site if contact is made with a cable.







# Flow Chart for work near Ausgrid Cables



# Ausgrid Checklist for work near or around underground cables

It is the responsibility of the Constructor to ensure that underground pits, ducts and cables are not damaged as a result of construction work. It is also your duty to protect your workers from harm or injury. This Checklist is intended to be used as a guide to what Constructors should do to make sure they have satisfied the minimum requirements to minimise damage to underground networks.

PLANS, LOCATION and NOTIFICATIONS	Completed
All relevant utilities plans obtained from Dial Before You Dig? (call 1100 – allow at least 5 working days for plans).	
Checked issue date on all the above plans to ensure issue was within the last 30 days?	
Examined plans and assessed all possible impacts on Ausgrid's network?	
Do you have both Underground Distribution and Transmission Plans (if applicable), on site at all times?	
All cables and conduits shown on the Ausgrid plans been located and marked on the ground?	
If you are planning to use a bore, have you ensured that the equipment is calibrated?	
Have you read and understood the requirements of NS 156? (for copies of NS 156 visit Ausgrid's Website or phone Ausgrid DBYD Office (02) 4951 0899) <a href="https://www.ausgrid.com.au">www.ausgrid.com.au</a>	
Have you notified Ausgrid as specified by NS 0156 and complied with requirements?	
Where an Ausgrid representative is required, two weeks notice is required before work commencing on site. Contact phone number for Transmission cable enquiries is (02) 4951 9200. For all other cases contact Ausgrid DBYD Office: (02) 4951 0899.	
INSPECTION OF WORK BY Ausgrid's REPRESENTATIVE	
Is the Ausgrid representative on site for any work near or around* any transmission cable before you start? (*Refer to NS 156.)	
For proposed work near or around* cables other than transmission and/or conduits, are any requirements specified by Ausgrid's representative clearly understood and ready to be applied before you start the work? (*Refer to NS 156.)	
PROTECTION	
Check that all people on-site have been made aware of the presence and location of ALL Ausgrid underground cables and/or conduits; especially boring, drilling and trenching machine operators?	
Is there any asbestos or asbestos containing material in Ausgrid's underground network assets?	
Have you checked for the presence of any Organo-Chloride Pesticides (OCP) in transmission trenches?	
Is the site supervisor monitoring all machine operators working near or around Ausgrid's underground cables and/or conduits?	
Are the requirements specified by Ausgrid's representative being followed?	
Are Ausgrid's requirements in place for any exposed cables and/or conduits to be supported and protected?	
Have you marked all exposed underground cables and/or conduits with flags that are clearly visible from within all machinery used on-site?	
Have safety barriers, fencing or para-webbing been erected to protect staff and the public as well underground cables and/or conduits in areas that are at risk?	
Have safety barriers, fencing or para-webbing been erected to protect staff and the public as well underground cables and/conduits in areas that are at risk?	

# In the event of DAMAGE to Ausgrid's cable or conduits, call 13 13 88 immediately. PROCEED with CAUTION

, , , , ,	rotect Ausgrid's cables and conduits from dam	nage and your Duty of Care to protect your workers
from harm or injury.		
Signed:		Date: / / /
	Responsible person on site	





# IMPORTANT INFORMATION

#### YOU MUST BE AWARE THAT:

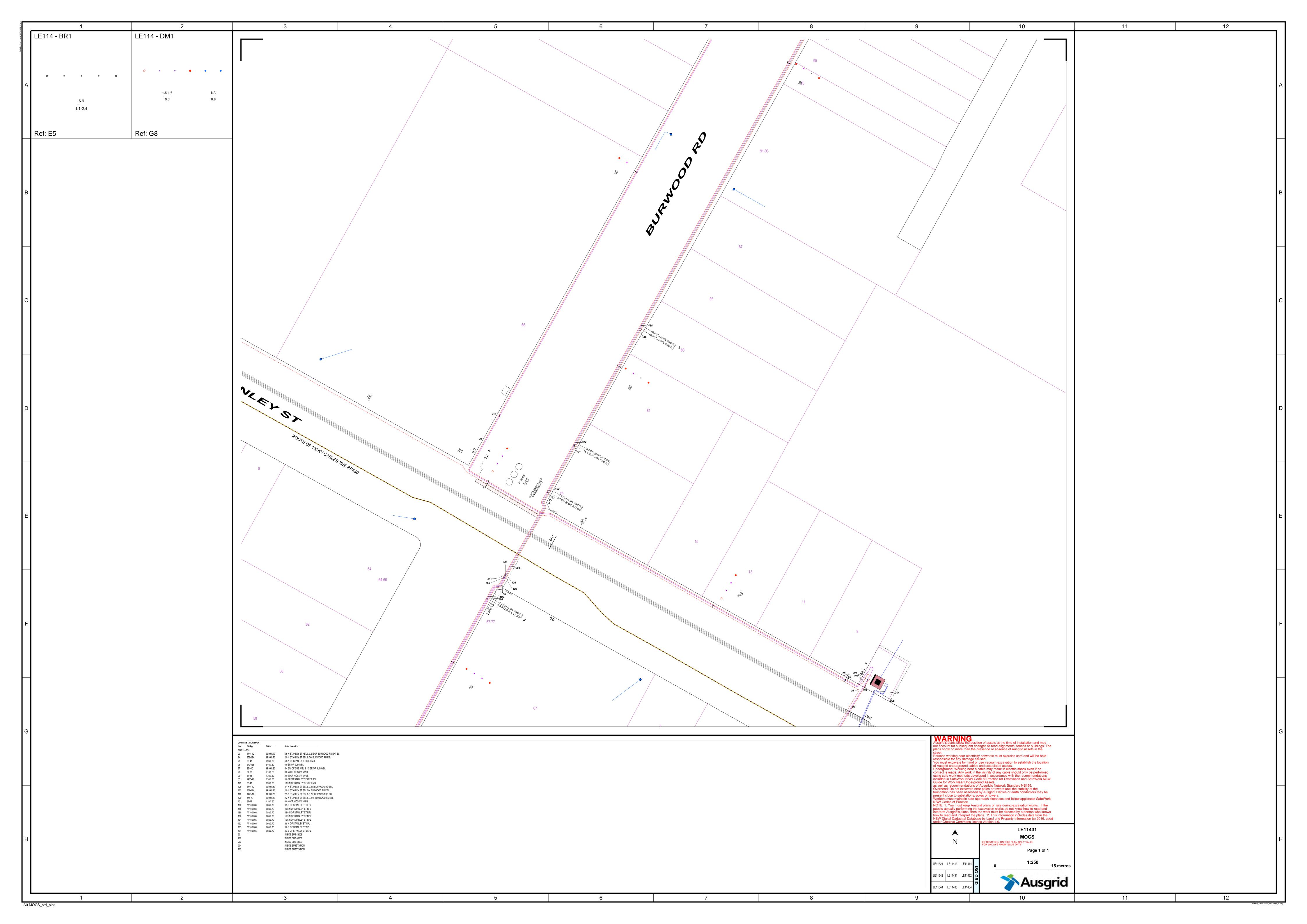
- 1. There may be underground cables owned by other utilities, in the vicinity of your work, about which Ausgrid has no information.
- 2. Ausgrid does not usually keep plans of privately owned underground cables or its underground service cables on private property. (Refer NS 156 for further information.)

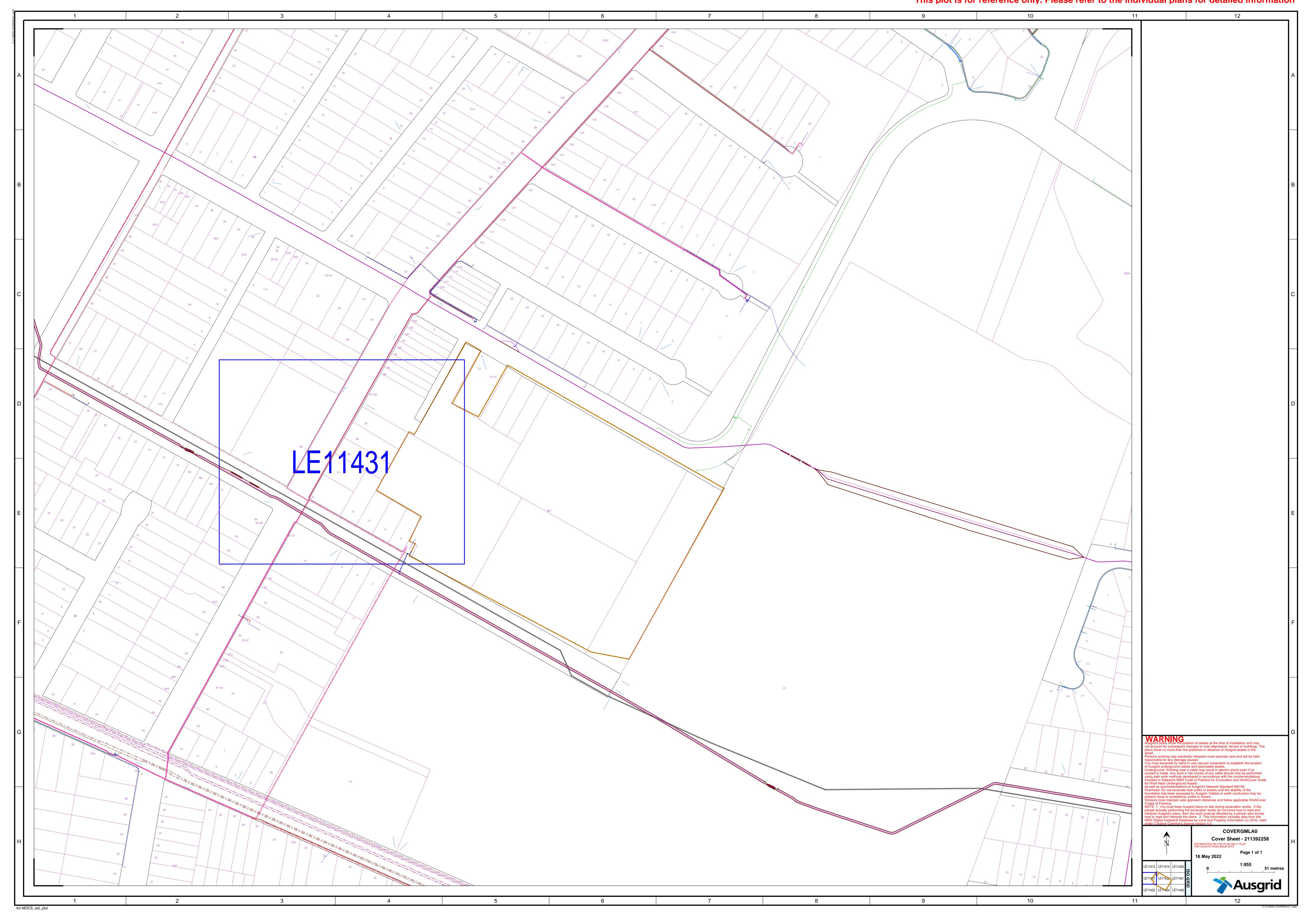
#### YOU MUST MAKE YOUR OWN ENQUIRIES IN RESPECT OF THESE CABLES.

#### YOU MUST UNDERSTAND THAT:

- 1. Ausgrid takes all reasonable care in providing details of its underground cables. However, owing to changes in road and footway alignments and levels, and the age and incompleteness of some records, it is not possible to conclusively specify the location of all of Ausgrid's underground cables. The accuracy and completeness of the information provided to you cannot be guaranteed. It is intended to be indicative only. It must not be solely relied upon when undertaking underground works.
- 2. Except to the extent that liability may not be capable of lawful exclusion, Ausgrid, its servants and agents will be under no liability whatsoever to any person for loss or damage (including indirect or consequential loss or damage) however caused (including without limitation, for breach of contract, negligence and breach of statute) which may be suffered or incurred from or in connection with the advice provided.
- 3. Due to the inherent dangers associated with **excavation, under boring and directional drilling** in the vicinity of underground cables, precautions must always be taken when undertaking any underground works. Ausgrid's Network Standard NS 156 specifies standards for working in the vicinity of underground cables. It is deemed to be part of this Advice, and it must be read by you.
- 4. Due to the inherent risk of compromising the stability of Ausgrid's power poles during excavation which could lead to pole movement or collapse, precautions must always be taken. If excavation is to be carried out within 1m from a power pole, Ausgrid must be contacted at construction.works@ausgrid.com.au for advice. Do not proceed until you have received such advice from Ausgrid.

YOU MUST READ NETWORK STANDARD NS 156, WORKING NEAR OR AROUND UNDERGROUND CABLES. IT IS PART OF THIS ADVICE.





If further information is required, please contact:

Ausgrid DBYD

Phone: (02) 4951 0899 Fax: (02) 4951 0729

# **Emergency Phone Number 131388**



# Underground Cable Location Search Advice

# -- Ausgrid Assets Affected -

To:	iEnvironmental Australia		
	iEnvironmental Australia Pty Ltd	Phone No:	+61739246177
	Unit 25A/1631 Wynnum Road, Tingalpa	Issue Date:	16/05/2022
	Tingalpa QLD 4173		

In response to your enquiry, Sequence No: 211392258 the records of Ausgrid disclose that there <u>are</u> Ausgrid underground cables in the defined search location and relevant Ausgrid plans have been provided.

This search is based on the geographical position of the dig site as denoted in the Dial Before You Dig caller confirmation sheet and an overview is provided:

Address:	3 Stanley Street Concord NSW 2137
Job #:	31947578



# \*\*Important\*\*

- All information provided to you is ONLY VALID FOR 30 DAYS from the date of issue
- You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret plans.
- If you require a full size print of A0 plans and don't have the resources to do so please contact our office on 49510899 to request a hard copy to be posted. **Please allow 3 working days for delivery.**
- Please note you will ONLY receive portions of your search area that contain Ausgrid Underground Assets

# YOU MUST READ AND UNDERSTAND THE <u>SUPPLEMENTARY MATERIAL</u> CONTAINED IN THIS ADVICE BEFORE PROCEEDING WITH ANY WORKS.

Summary of Supplementary Information:

Material	Purpose	Location
Important Information.pdf	Details important information	Attached
Working near Ausgrid Cables.pdf	Summary of NS156	Attached
COMN0119 How to Read Ausgrid Plans.pdf	Details how to read Ausgrid plans	Attached
SafeWork NSW "Work near underground assets: Guide"	To assist you in deciding appropriate measures to eliminate or control risks when working near underground assets.	Web Link [Click Here]
Ausgrid's Network Standard NS156	For important information for work near or around underground cables	Web Link [Click Here]
Ausgrid's Network Standard NS199	This Network Standard applies to specific work on Ausgrid Low Voltage Underground Assets and associated Hazards	Web Link [Click Here]
Working in Confined Spaces	For important information when working in confined spaces	Web Link [Click Here]



16/05/2022

iEnvironmental Australia Unit 25A/1631 Wynnum Road,Tingalpa Tingalpa QLD 4173

Dear iEnvironmental Australia

**Dial Before You Dig Response Sequence Number:** 211392262

Job Number: 31947578

I refer to the above request for information about Council's assets in the following area:

3 Stanley Street Concord NSW 2137

Please review all other documents included with this response for additional details about the area you have nominated.

Please note that a Road Opening Permit is required prior to commencement of any works in the road reservation.

Yours faithfully

# **Kelly Loveridge**

**Director City Services and Assets** 

**DISCLAIMER:** While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither the City of Canada Bay nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

## **IMPORTANT!**

Please read and understand all the information below.

#### About the attachments

- The information contained with this document is from the City of Canada Bay and is regarding its underground assets. It does not cover the assets of any other authority.
- Due to the nature and age of Council infrastructure, accuracy and or completeness cannot be guaranteed and, accordingly, the Council plans do no more than indicate the likely presence of Council assets. They are indicative only. You must confirm the location of underground assets by field investigation. For the location of assets it is suggested you contact a specialist services location company or qualified plumber.
- Council owns a small number of lighting and electrical systems in roadways. Most are controlled by Energy Australia. Council owns a non-potable water reticulation system. Most water systems are owned by Sydney Water.

## **Duty of care**

- A Road Opening Permit is required prior to commencement of work within a road reservation. For local roads, this can be obtained from the City of Canada Bay by Phoning (02) 9911 6555 to arrange a site meeting. See below for RTA roads.
- When excavating in the City of Canada Bay, it is the responsibility of the Principal and any
  consultant or contractor engaged by the Principal to obtain plans from the Council at least two
  days prior to the commencing of work.
- Dig safely. No mechanical plant can be used within 1 metre of indication of an underground asset, unless sited first by hand digging. A spotter must be used when using mechanical plant.
- Protect the environment. Observe the provisions of the Water Management Act 2000 and the POEO 1997.
- Any discrepancies between Council's plans and the actual location of assets should immediately be reported to the City of Canada Bay on (02) 9911 6555
- Any damage to a council asset must be reported to the City of Canada Bay on (02) 9911 6555 immediately.
- Council reserves the right to recover compensation for loss or damage and cost of repairs to any of its assets irrespective of provision of plans. Attention is drawn to Council's powers under the Roads Act 1993.

## Heritage.

Pursuant to Canada Bay Local environmental Plan 2008, some items in Council's road reserves are heritage items and some roads intersect heritage conservation zones. For more details consult Council's LEP. Ensure that heritage issues are addressed in an environmental assessment prior to commencement of work.

### RMS Roads.

Your attention is drawn to the requirement of NSW Roads and Marine Services (RMS) to be notified of any activity likely to impact on the operational efficiency of the road network. (lane closures etc) An RMS Road Occupancy License may be required and an approval from the relevant RMS Asset Management Branch is required for any works that will involve damage to an RMS asset. (excavations etc). Consult RMS Road Occupancy Unit at the Transport Management Centre for more details.

Phone: 13 77 88 or (02) 8894 1555

Fax: (02) 8396 1530

Email: tmc piu@rta.nsw.gov.au

# **FURTHER ASSISTANCE**

Further assistance regarding Council's underground assets can be obtained by calling (02) 9911 6555

To: iEnvironmental Australia Sequence No: 211392262 Job No: 31947578

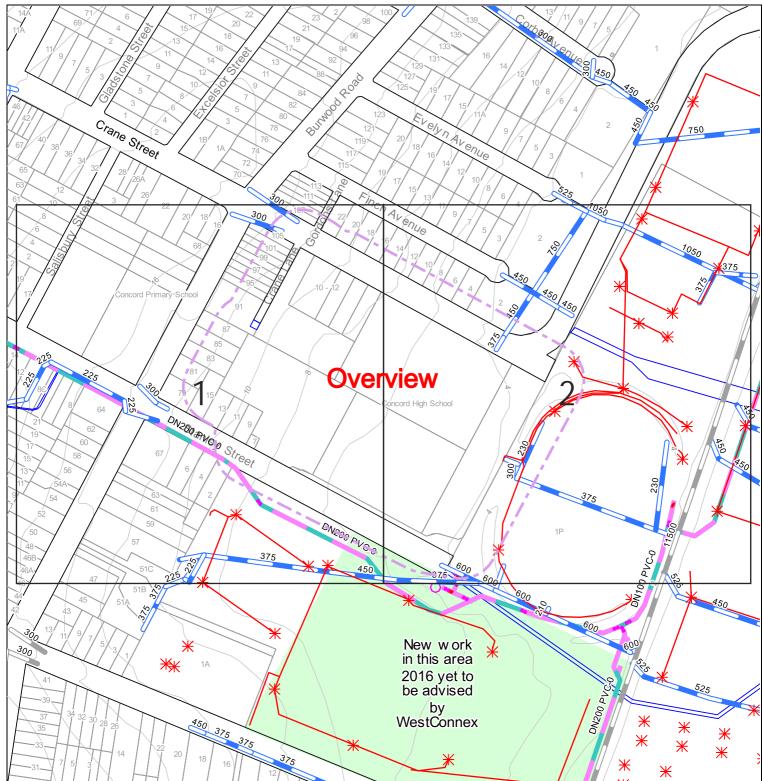
Email: u3n2hlhzr84szg.mfgg9mk5gfx542@smarterwx-mail.1100.com.au

Location: 3 Stanley Street, Concord, NSW 2137



DIAL BEFORE YOU
DIG 1100 RESPONSE

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YOU DIG
www.1100.com.au



**DISCLAIMER:** While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither the City of Canada Bay nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

This plan does no more than indicate the likely presence or absence of Council assets.

#### \*\*\* A Road Opening Permit is required for excavations in roads or footpaths \*\*\*

Council owns only a small proportion of the lighting and electrical systems in roadways. Most are controlled by AusGrid.

Care should be exercised when excavating. Attention is drawn to Council's powers under the Roads Act.

For further information contact Brian Woolley on 02 9911 6339

Plans generated [16/05/2022] by Pelicancorp TicketAccess Software | www.pelicancorp.com

KEY S

Stormwater Pipe

 Stormwater Pipe (Not Council Controlled)

Easement



Lascine

• Pit

GPT

Non Portable Water

Council Light

Council ElectricityCouncil Boundary

- DBYD Object

AU.City of Canada Bay - Response Plan.docx (31 Aug 2018)

To: iEnvironmental Australia Sequence No: 211392262

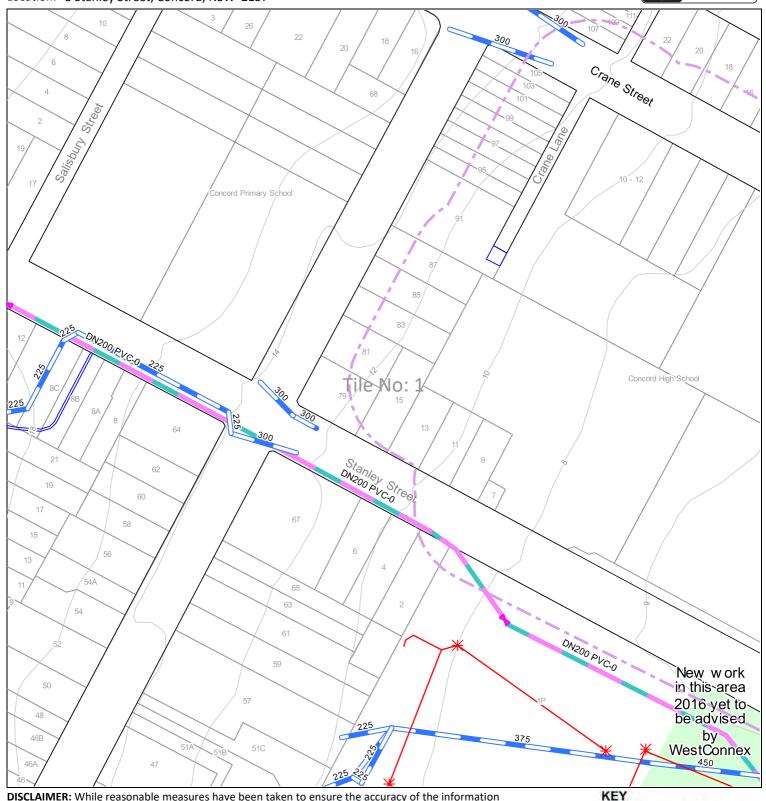
Job No: 31947578

Email: u3n2hlhzr84szg.mfgg9mk5gfx542@smarterwx-mail.1100.com.au

Location: 3 Stanley Street, Concord, NSW 2137



**DIAL BEFORE YOU** YOU DIG **DIG 1100 RESPONSE** 



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Plans generated [16/05/2022] by Pelicancorp TicketAccess Software | www.pelicancorp.com

Stormwater Pipe

Stormwater Pipe (Not Council Controlled)

Easement



Pit

GPT

Non Portable Water

Council Light

Council Electricity

 Council Boundary DBYD Object

AU.City of Canada Bay - Response Plan.docx (31 Aug 2018)

To: iEnvironmental Australia Sequence No: 211392262 Job No: 31947578

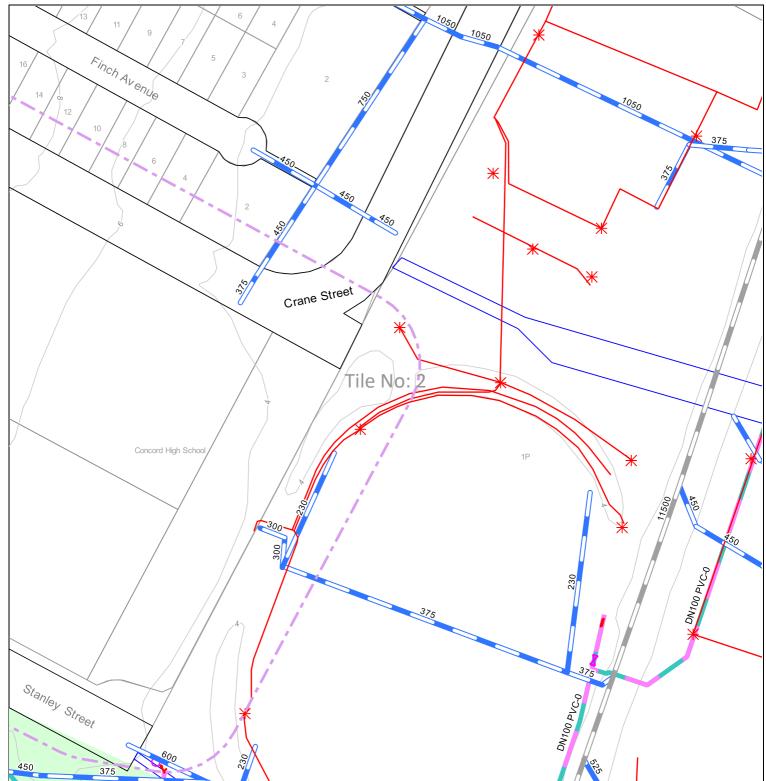
Email: u3n2hlhzr84szg.mfgg9mk5gfx542@smarterwx-mail.1100.com.au

Location: 3 Stanley Street, Concord, NSW 2137



DIAL BEFORE YOU
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**DISCLAIMER:** While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither the City of Canada Bay nor PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

This plan does no more than indicate the likely presence or absence of Council assets.

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Council owns only a small proportion of the lighting and electrical systems in roadways. Most are controlled by AusGrid.

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Plans generated [16/05/2022] by Pelicancorp TicketAccess Software | www.pelicancorp.com

Stormwater Pipe
 Stormwater Pipe
 (Not Council Controlled)



Easement

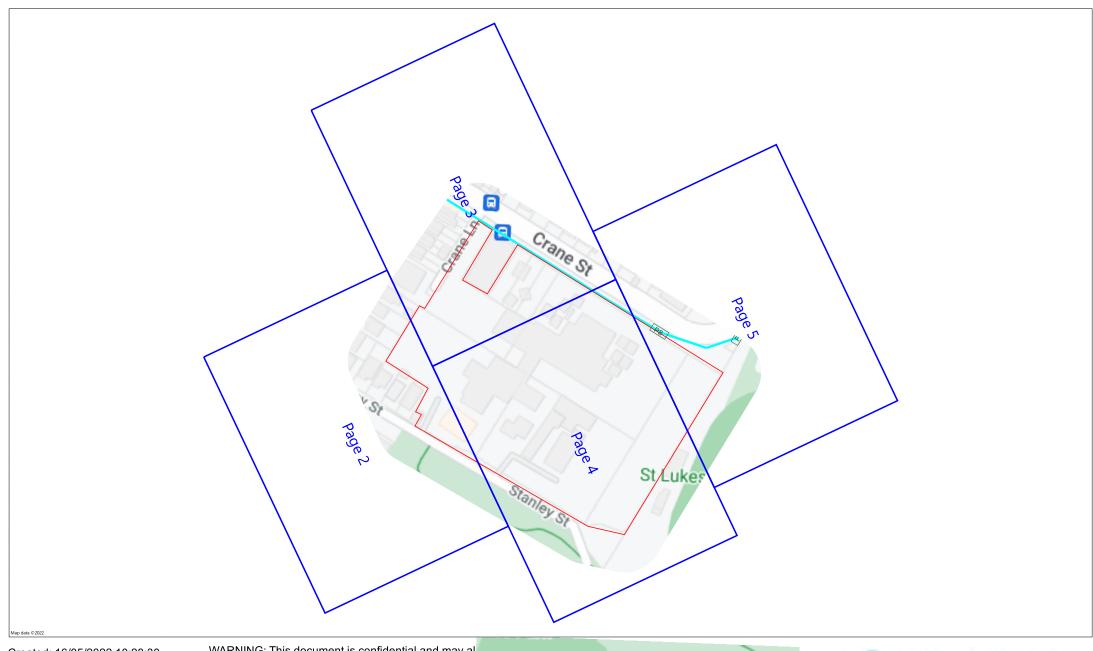
PitGPT

Non Portable Water
Council Light

Council Electricity

Council Boundary
 DBYD Object

AU.City of Canada Bay - Response Plan.docx (31 Aug 2018)



Created: 16/05/2022 10:28:30 Job number: 31947578

Sequence number: 211392259

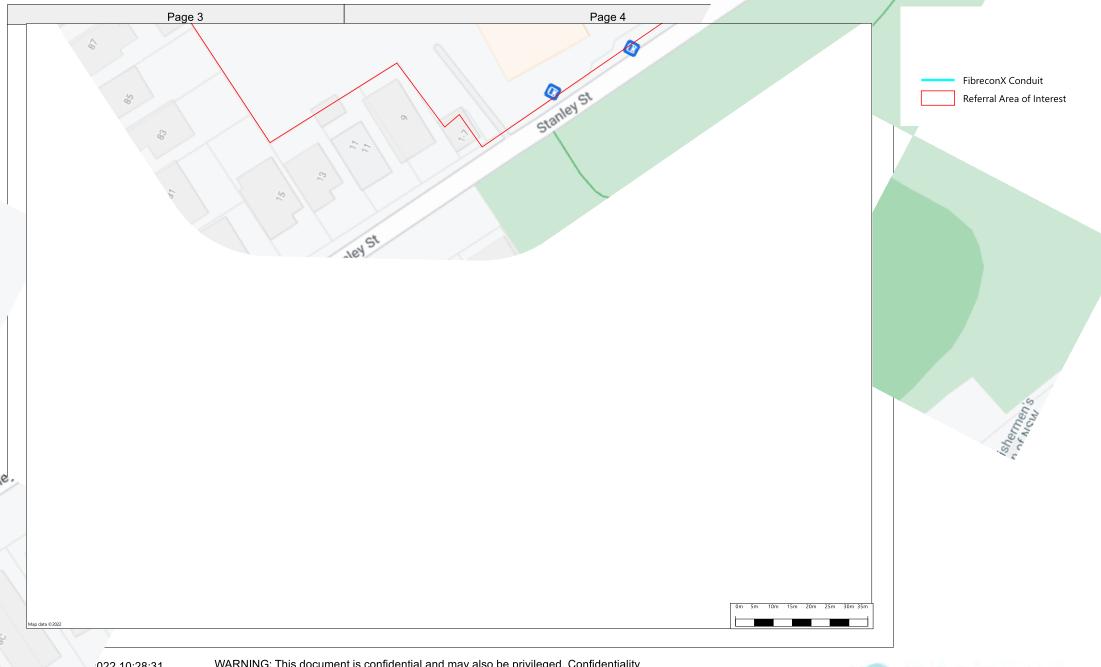
WARNING: This document is confidential and may all nor privilege is not waived or destroyed by virtue of it incorrect addressee. Unauthorised use of the content prohibited. Any information contained in this docume our records is believed to be accurate, but no responserror or omission. FibreConX Plans and information from the date of issue. If this timeline has elapsed plane.



DS St







2022 10:28:31

Job number: 31947578

Sequence number: 211392259

WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. FibreConX Plans and information supplied are valid for 28 days from the date of issue. If this timeline has elapsed please raise a new enquiry.





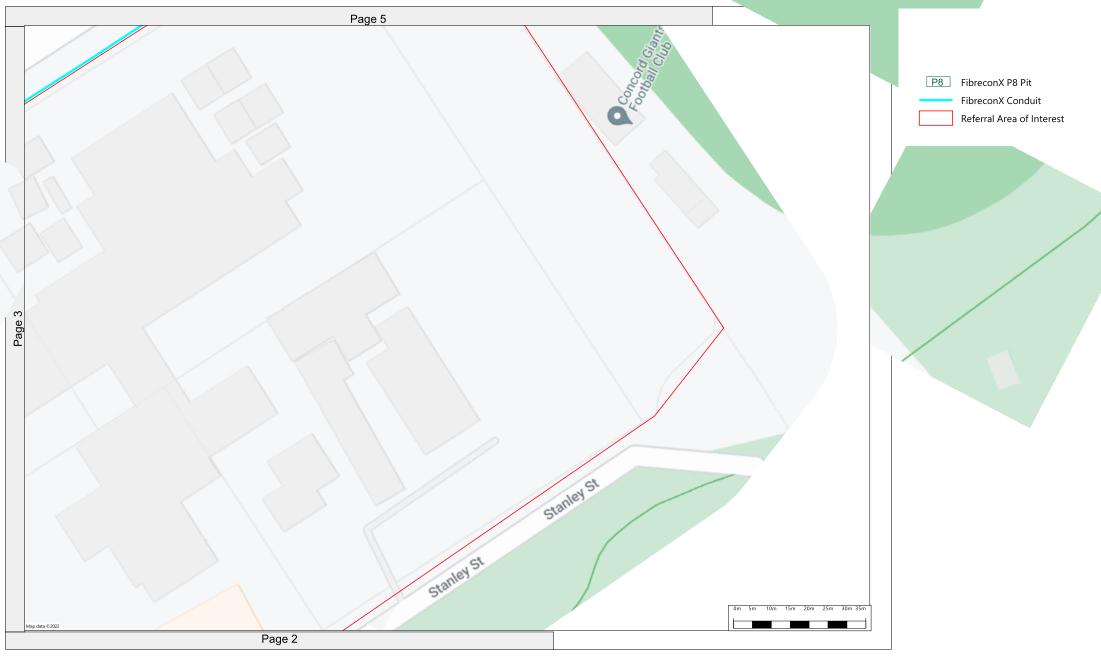




Sequence number: 211392259

prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. FibreConX Plans and information supplied are valid for 28 days from the date of issue. If this timeline has elapsed please raise a new enquiry.





Created: 16/05/2022 10:28:35

Job number: 31947578

Sequence number: 211392259

WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. FibreConX Plans and information supplied are valid for 28 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

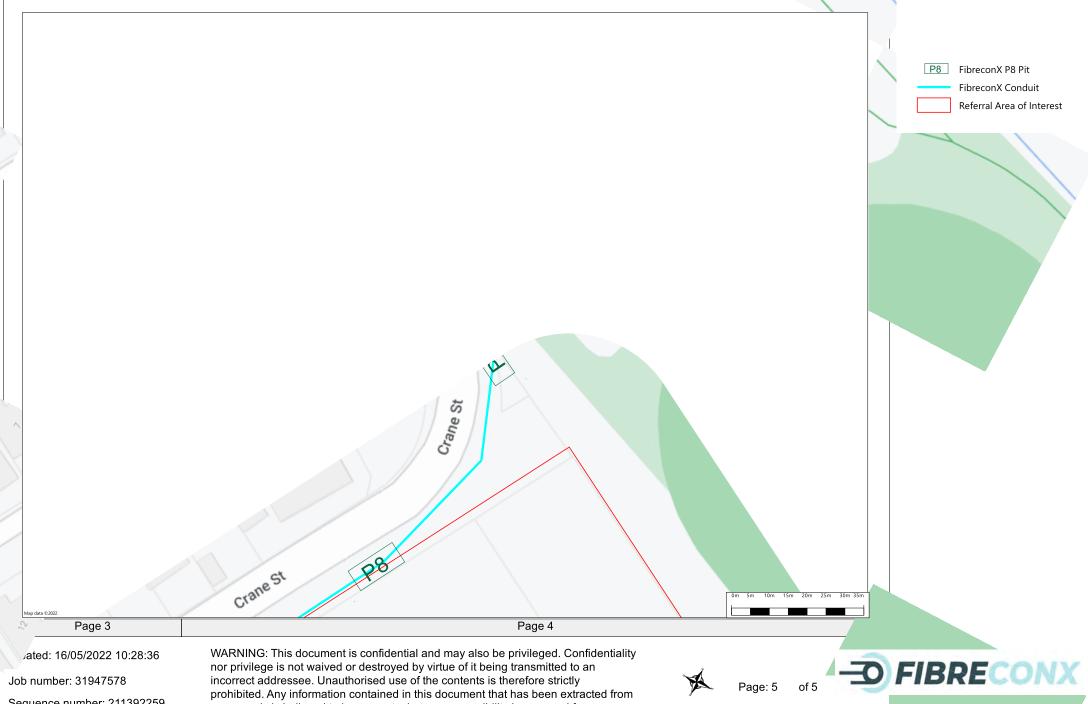


Page: 4

of 5

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YOU DIG
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-D FIBRECONX



Sequence number: 211392259 our records is believed to be accurate, but no responsibility is assumed for any error or omission. FibreConX Plans and information supplied are valid for 28 days from the date of issue. If this timeline has elapsed please raise a new enquiry.



### Information

The area of interest requested by you does contain, or is adjacent to, FibreconX communications assets.

Note: In this notice FIBRECONX Facilities means underground telecommunications facilities, including but not limited to conduits, pits, closures and cables owned and controlled by FibreconX.

### Location of underground FibreconX Facilities

**FibreconX's** records indicate that there are **FibreconX** Facilities in the vicinity of the location identified in your referral request ("Location").

A **FibreconX** indicative plan is attached with this notice ("Indicative Plan"). The Indicative Plan shows general alignment information only and are not necessarily an exact, scale or accurate depiction of the location and alignment of **FibreconX** Facilities. In particular, the fact that the Indicative Plan shows that a facility is installed in a straight line along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line, or at a uniform depth.

You should read the Indicative Plan in conjunction with this notice and in particular, the notes below. Particular care must be taken by you to make your own enquiries and investigations to precisely locate any underground infrastructure and manage the risk arising from such cables accordingly.

The information contained in the Indicative Plan is valid for 30 days from the date of issue set out above.

You are expected to make your own enquiries and perform your own investigations, including engaging appropriately qualified plant locators at your cost to locate **FibreconX Facilities** during any activities you carry out on site.

FibreconX recommended party/parties to locate the **FibreconX** Facilities is/are provided in the email to which this document is attached.



We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service.

If you are planning to excavate and require further information, please contact FibreconX on 1300 064 405.

For any enquiries related to moving assets or planning and design activities, please email dbyd@fibreconx.com.au.

### Notes:

- 1. You are now aware that there are FibreconX Facilities in the vicinity of the above property that could be damaged as a result of activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
- 2. You should have regard to section 474.6 and 474.7 of the Criminal Code Act 1995 (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by FibreconX can interact with FibreconX's network facilities.
- 3. Any information provided is valid only for 30 days from the date of issue set out above.

Thank You,

FibreconX Operations Team



### Referral Conditions

The following are conditions on which FibreconX provides you with the Indicative Plan. By accepting the plan, you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

- FibreconX does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your expense to locate FibreconX Facilities during any activities you carry out on site).
- 2. You acknowledge that there may be a variation between the line depicted on the Indicative Plan and the location of any FibreconX Facilities.
- 3. You should not assume that FibreconX Facilities are installed at uniformed depth, or installed in straight lines along their lengths, even if they are indicated on plan provided to you. Careful onsite investigations are essential to locate the exact position of all FibreconX Facilities.
- 4. In carrying out any works in the vicinity of FibreconX Facilities, you must maintain the following minimum clearances:
  - 300mm when laying assets inline, horizontally or vertically.
  - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
  - 1000mm when operating mechanical excavators or boring equipment (in-line, horizontal or vertical).

Note: Please ensure adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.

- 5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as FibreconX fibre optic assets). Damage to underground cables may result in:
  - Damage to your excavating plant.
  - Responsibility for the cost of repairs.
- 6. You must take all reasonable precautions to avoid damaging FibreconX Facilities.

  These precautions may include but not limited to the following:



- All excavation sites should be examined for underground cables by careful hand excavation.
- Cable cover slabs, if present, must not be disturbed.
- Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable. For example, the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
- If any undisclosed underground conduits or cables are located, notify FibreconX immediately.
- All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
- The safety of the public and other workers must be ensured.
- All excavations must be undertaken in accordance with all relevant legislation and regulations.
- 7. You will be responsible for all damage to FibreconX Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by FibreconX as a result of any such damage.
- 8. You must immediately report any damage to FibreconX network that you are/become aware of. Notification may be by telephoning 1300 064 405.
- 9. Except to the extent that liability may not be capable of lawful exclusion, FibreconX and its servants and agents and the related bodies corporate of FibreconX and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans (including Indicative Plan), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

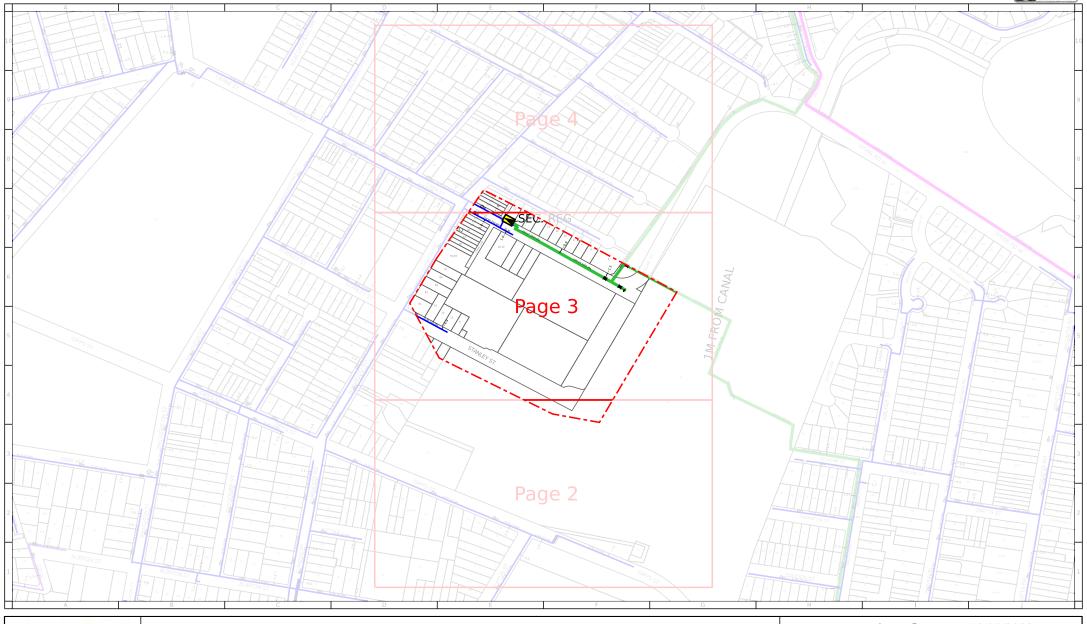
All works undertaken shall be in accordance with all relevant legislations, acts and



regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead
	and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice







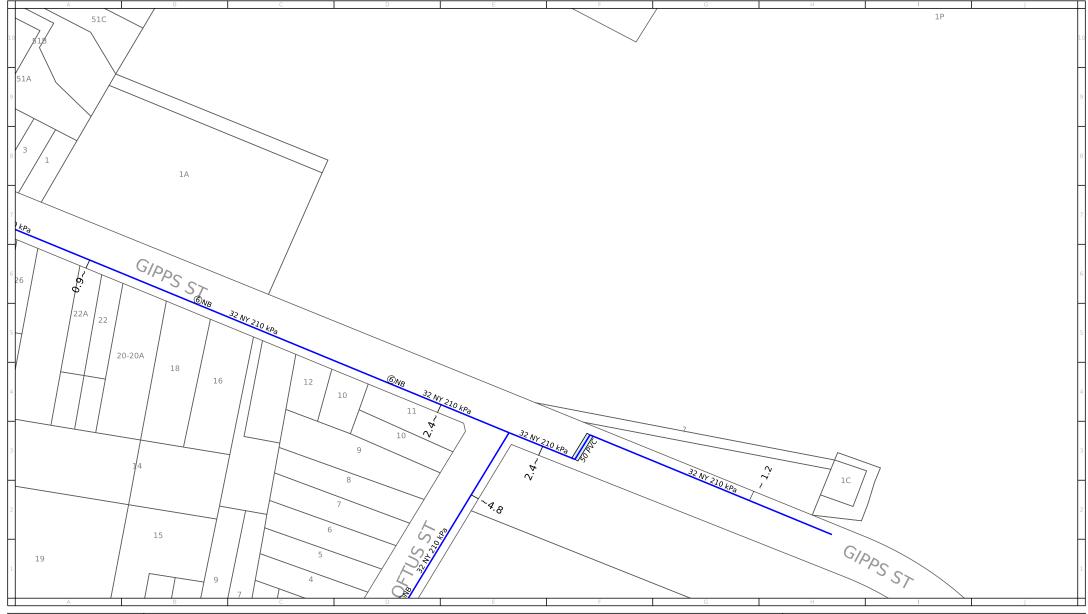


Issue Date: 16/05/2022
DBYD Seq No: 211392261
DBYD Job No: 31947578

Overview Page:

Scale:1:6301









Issue Date: 16/05/2022
DBYD Seq No: 211392261
DBYD Job No: 31947578

Scale:1:2000

0m 10m 20m 30m 40m 50m 60m 70m80m









Issue Date: 16/05/2022 DBYD Seq No: 211392261 DBYD Job No: 31947578

Scale:1:2000

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 Issue Date:
 16/05/2022

 DBYD Seq No:
 211392261

 DBYD Job No:
 31947578

Scale:1:2000

0m 10m 20m 30m 40m 50m 60m 70m80m



### Jemena Gas Network Protection

### **High Pressure - Assets Affected**

This information is only valid for 28 days from the date of issue

In reply to your enquiry, there are **High Pressure Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. **For an explanation of the map, please see the information below and the legend attachment.** 

### **Excavation Guidelines**

Prior to **any** excavations in this area, you **must** contact the High Pressure Response Coordinator to arrange a survey via:

http://mygasservices.jemena.com.au (High Pressure Works / High Pressure Standby)

Please note that a duty of care exists to ensure gas assets are not compromised or damaged. Jemena's expectation is the excavator operator holds a current Verification of Competency (VOC) or equivalent for the machine to be used near Jemena High Pressure Gas Assets.

Further standby enquiries can be directed to the High Pressure Coordinator -

E: infrastructureprotection@jemena.com.au or PH: 1300 665 380

Appointments will be coordinated with availability of a Jemena Representative to arrange a survey. For all works in the vicinity of High Pressure Gas Mains you <u>must</u> arrange for a Jemena Representative to attend and supervise all excavations. Charges may apply.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "Work Near Underground Assets Guideline" published in 2007 by the Work Cover Authority.

A copy of this Guideline is available at: www.safework.nsw.gov.au

Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. Individual customers' services and services belonging to other third parties are not included on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "Jemena") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. Jemena advises that you may be required to carry out potholing by hand if required by a Jemena Representative to confirm the location of Jemena's main and installations. This must also be performed by you under the supervision of a Jemena Representative and be carried out in accordance with the Working Near Underground Assets Guideline published in 2007 by Work Cover Authority

In case of Emergency Phone 131 909 (24 hours)

Admin 1300 880 906

# Jemena Gas Networks Dial Before You Dig Map Legend

Nov 2021 ver3



### **Network Mains**

### Proposed New Main (coloured as per kPa) Proposed Isolate (coloured as per kPa) ......... Unknown kPa 2kPa Low Pressure gas main 7kPa Low Pressure gas main 30kPa Medium pressure gas main 100kPa Medium Pressure gas main 210kPa Medium Pressure gas main 300kPa Medium Pressure gas main 400kPa Medium Pressure gas main 1050kPa High Pressure gas main 3500kPa High Pressure gas main 7000kPa High Pressure gas main . . . . >7000kPa Transmission pipeline Isolated Service - Former Med/High Pressure Isolated Steel Main -Treat as High Pressure

Conduit or Casing

100 PVC Size & Material (se

Size & Material (see conduit material codes)

Critical Main -Treat as High Pressure
(Main coloured as per kPa)

EXPOSED Exposed Main section

Shallow Main section: see Protection Code
below, no code assume no protection

SP Steel Plate CE Concrete Encased PP PE Plate UNK Unknown Type CS Concrete Slab

Network Assets

>

Siphon

M

Network Valve

High Pressure Main Line Valve (=>1050kPa)

M

High Pressure Automatic Line Break Valve (>1050kPa)

Boundary Regulator Set (=<1050kPa)

Distribution Regulator Set (=<1050kPa)



High Pressure Regulating Station (>1050kPa)

### **Annotations**

### Pipe and Conduit Material Codes

NY Nylon NB Nominal Bore - Cast Iron

PE Polyethylene ST Steel

P/PL Plastic (undefined) C/CO Copper

PVC Polyvinyl Chloride

#### Pipe code combinations and dimension references

**6 NB 50MM NY** 50mm Nylon main inserted into 6 inch (Nominal

Bore) Cast Iron pipe

**50MM 32MM NY** 32mm Nylon main inserted into 50mm Steel pipe

~1.5 Distance (in metres) of main from Boundary Line (MBL)

MBK Distance in Metres Back of Kerb

MKL Distance in Metres from Kerb Line

MEBL Distance in Metres from Eastern Boundary Line (North/South/West)

MCL Distance in Metres from Centre Line of Road

MFL Distance in Metres from Fence Line

To: iEnvironmental Australia

Phone: Not Supplied Fax: Not Supplied

Email: DBYD@ienvi.com.au

Dial before you dig Job #:	31947578	DIAL DECORE
Sequence #	211392256	YOU DIG
Issue Date:	16/05/2022	www.1100.com.gu
Location:	3 Stanley Street , Concord , NSW , 2137	THE TOOLSONISC

### Information

The area of interest requested by you contains one or more assets.

nbn™ Assets	Search Results	
Communications	Asset identified	
Electricity	No assets	

In this notice **nbn**<sup>TM</sup> **Facilities** means underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by **nbn**<sup>TM</sup>

### Location of **nbn™** Underground Assets

We thank you for your enquiry. In relation to your enquiry at the above address:

- nbn's records indicate that there <u>ARE</u> nbn™ Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn™** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g DBYD Certified Locators, at your cost to locate nbn™

Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** <u>Commercial Works</u> website to complete the online application form. If you are planning to excavate and require further information, please email <u>dbyd@nbnco.com.au</u> or call 1800 626 329.

#### Notes:

- 1. You are now aware that there are **nbn**<sup>TM</sup> Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
- 2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
- 3. Any information provided is valid only for **28 days** from the date of issue set out above.

### **Referral Conditions**

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans, you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

- nbn does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are
  expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified
  plant locators, e.g DBYD Certified Locators, at your cost to locate nbn™ Facilities during any activities you carry out
  on site).
- 2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
- 3. You should not assume that **nbn™** Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
- 4. In carrying out any works in the vicinity of **nbn™** Facilities, you must maintain the following minimum clearances:
  - 300mm when laying assets inline, horizontally or vertically.
  - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
  - 1000mm when operating mechanical excavators.
  - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
- 5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn™** fibre optic,copper and coaxial cables,and power cable feed to **nbn™** assets). Damage to underground electric cables may result in:
  - Injury from electric shock or severe burns, with the possibility of death.
  - Interruption of the electricity supply to wide areas of the city.
  - Damage to your excavating plant.
  - Responsibility for the cost of repairs.
- 6. You must take all reasonable precautions to avoid damaging **nbn™** Facilities. These precautions may include but not limited to the following:
  - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs
    if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the
    likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the
    line of the cable rather than digging across the cable.
  - If any undisclosed underground cables are located, notify **nbn** immediately.

- All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
- The safety of the public and other workers must be ensured.
- All excavations must be undertaken in accordance with all relevant legislation and regulations.
- 7. You will be responsible for all damage to **nbn™** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
- 8. You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone 1800 626 329.
- 9. Except to the extent that liability may not be capable of lawful exclusion, nbn and its servants and agents and the related bodies corporate of nbn and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents				
	Work Health and Safety Act 2011				
	Work Health and Safety Regulations 2011				
National	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric				
	Lines (Draft)				
	Occupational Health and Safety Act 1991				
	Electricity Supply Act 1995				
NSW	Work Cover NSW - Work Near Underground Assets Guide				
	Work Cover NSW - Excavation Work: Code of Practice				
VIC	Electricity Safety Act 1998				
VIC	Electricity Safety (Network Asset) Regulations 1999				
QLD	Electrical Safety Act 2002				
QLD	Code of Practice for Working Near Exposed Live Parts				
SA	Electricity Act 1996				
TAS	Tasmanian Electricity Supply Industry Act 1995				
WA	Electricity Act 1945				
WA WA	Electricity Regulations 1947				
NT	Electricity Reform Act 2005				
IN I	Electricity Reform (Safety and Technical) Regulations 2005				
ACT	Electricity Act 1971				

Thank You,

nbn DBYD

Date: 16/05/2022

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To: iEnvironmental Australia

Phone: Not Supplied Fax: Not Supplied

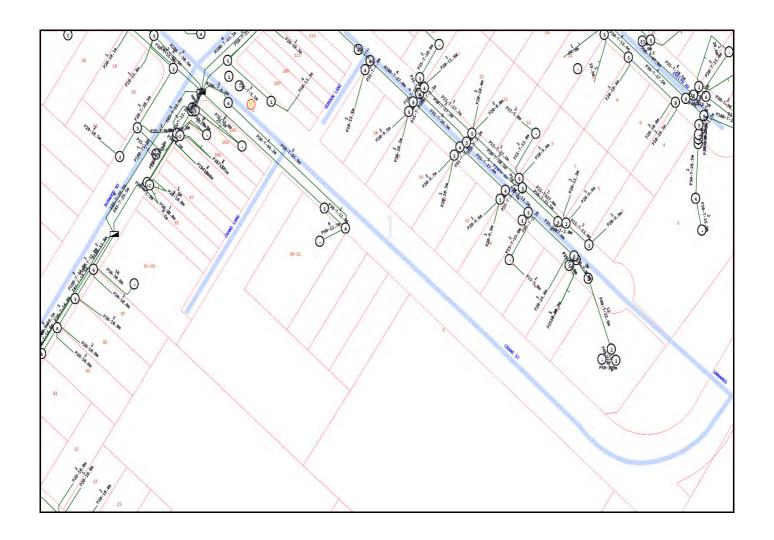
Email: DBYD@ienvi.com.au

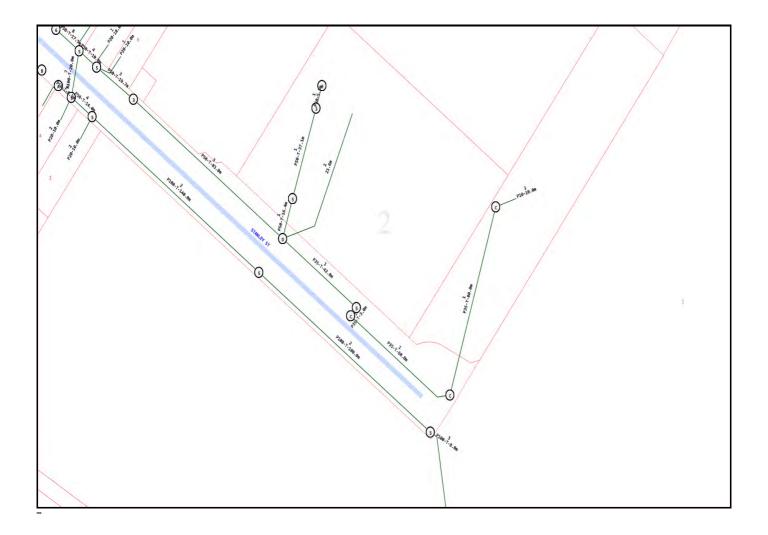
Dial before you dig Job #:	31947578	DIAL DESCRIP
Sequence #	211392256	YOU DIG
Issue Date:	16/05/2022	www.1100.com.au
Location:	3 Stanley Street , Concord , NSW , 2137	The state of the s

## **Indicative Plans**

2

+	LEGEND nbn (6)
44	Parcel and the location
3	Pit with size "5"
<b>(2E)</b>	Power Pit with size "2E".  Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, nuil.
	Manhole
$\otimes$	Pillar
PO - T- 25.0m P40 - 20.0m	Cable count of trench is 2.  One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart.  One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
3 1 0	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
-00-	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
-0-0-	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
-0-0-	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m





## **Emergency Contacts**

You must immediately report any damage to the **nbn**<sup>™</sup> network that you are/become aware of. Notification may be by telephone - 1800 626 329.



**nbn** has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service providers in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

## Practice safe work habits

Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.



Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.



**Prepare:** Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.



Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.



**Protect:** Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.



**Proceed:** Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

# Working near **nbn**™ cables





Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

### Contact

All **nbn**<sup>™</sup> network facility damages must be reported online <u>here</u>. For enquiries related to your DBYD request please call 1800 626 329.

#### Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

**nbn** will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure

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**Optus Contract Management Team**Unit 9, 677 Springvale Road
Mulgrave, Victoria, 3178

Date: 16 May 2022

To: iEnvironmental Australia

Company: iEnvironmental Australia Pty Ltd

Address: Unit 25A/1631 Wynnum Road, Tingalpa

Tingalpa, QLD 4173

#### **ENQUIRY DETAILS**

Location: 3 Stanley Street, Concord, NSW 2137

Sequence No.: 211392260 DBYD Reference: 31947578

In relation to your enquiry concerning the above location, Optus advises as follows:

Optus records indicate that there ARE underground Optus FIBRE OPTIC TELECOMMUNICATIONS ASSETS in the vicinity of the above location as per the attached drawing(s).

PLEASE NOTE that any interference with these assets may be considered an offence under the Criminal Code Act 1995 (Cth). Optus reserves the right to seek compensation for loss or damage to its assets including consequential loss.

This reply is valid for a period of 30 days from the date above.

### **IMPORTANT INFORMATION**

Asset location drawings provided by Optus are reference diagrams and are provided as a guide only. The completeness of the information in these drawings cannot be guaranteed. Exact ground cover and alignments cannot be provided with any certainty as these may have altered over time. Depths of telecommunications assets vary considerably as do alignments. It is essential to identify the location of any Optus assets in the vicinity prior to engaging in any works.

All Optus assets in the vicinity of any planned works will need to be electronically located to ascertain their general location. Depending on the scope of planned works in the vicinity, the assets may also need to be physically located.

YOU <u>MUST</u> ENGAGE THE SERVICES OF ONE OF THE OPTUS ASSET ACCREDITED LOCATORS TO CARRY OUT ASSET LOCATION (REFER LIST OF ACCREDITED LOCATORS AT THE END OF THIS OPTUS RESPONSE).

Unless otherwise agreed with Optus, where an on-site asset location is required, the requestor is responsible for all costs associated with the locating service including (where required) physically exposing the Optus asset.

### **DUTY OF CARE**

When working in the vicinity of telecommunications assets you have a legal "Duty of Care" and non-interference that must be observed.

It is your responsibility as the requesting party (as a landowner or any other party involved in the planned works) to design for minimal impact to any existing Optus asset. Optus can assist at the design stage through consultation.

It is also your, as the requesting party (or your representative's), responsibility to:

- a) Obtain location drawings (through the Dial Before You Dig process) of any existing Optus assets at a reasonable time before any planned works begin;
- b) Have an Optus Accredited Asset Locator identify the general location of the Optus asset and physically locate the asset where planned works may encroach on its alignment; and
- c) Contact Optus for further advice where requested to do so by this letter.

### DAMAGE TO ANY OPTUS ASSET MUST BE REPORTED TO 1800 500 253 IMMEDIATELY

You, your head contractor and any relevant subcontractor are all responsible for any Optus asset damage as a result of planned activities in the vicinity of Optus assets.

This applies where works commence prior to obtaining Optus drawings, where there is failure to follow instructions or during any construction activities.

Optus reserves the right to recover compensation for loss or damage to its assets including consequential loss. Also, you, your head contractor and any relevant subcontractor may also be liable for prosecution under the Criminal Code Act 1995 (Cth).

#### **ASSET RELOCATIONS**

You are <u>not permitted</u> by law to relocate, alter or interfere with any Optus asset under any circumstance. Any unauthorised interference with an Optus asset may lead to prosecution under the Criminal Code Act 1995 (Cth). Enquiries relating to the relocation of Optus assets must be referred to the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

#### **APPROACH DISTANCES**

On receipt of Optus asset location drawings and prior to commencing any planned works near an Optus asset, engage an Optus Accredited Locator to undertake a general location of the Optus asset.

Physical location of the Optus asset by an Optus Accredited Locator will also be required where planned works are within the following approach distances of the general location of the Optus asset:

- a) In built up metropolitan areas where road and footpaths are well defined by kerbs or other features a minimum <u>clear distance of 1 meter</u> must be maintained from the general location of the Optus asset.
- b) In non-established or unformed metropolitan areas, a minimum <u>clear distance of 3 meters</u> must be maintained from the general location of the Optus asset.
- c) In country or rural areas where wider variations may exist between the general and actual location of an Optus asset may exist, then a minimum <u>clear distance of 5 meters</u> must be maintained from the general location of the Optus asset.

If planned works are parallel to the Optus asset, then the Optus asset must be physically located by an Optus Accredited Locator at a <u>minimum of 5 meter intervals</u> along the length of the parallel works prior to work commencing.

<u>Under no circumstances</u> is crossing of any Optus asset permitted without physical location of the asset being carried out by an Optus Accredited Locator. Depending on the asset involved an Optus representative may be required onsite.

The minimum clearances to the physical location of Optus assets for the following specific types of works must be maintained at all times.

Note: Where the clearances in the following table cannot be maintained or where the type of work differs from those listed then advice must be sought from the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

Type of Works	Clearance to Physical Location of Optus Asset
Jackhammers / Pneumatic Breakers	Not within 1 meter.
Light duty Vibrating Plate or Wacker Packer type compactors (not heavy road construction vibrating rollers etc.)	500mm compact clearance cover before a light duty compactor can be used over any Optus conduit.  No compaction permitted over Optus direct buried cable without prior approval from Optus.
Boring Equipment (in-line, horizontal and vertical)	Not within 5 meters parallel of the Optus asset location without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite.  Not to cross the Optus asset without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite.

Type of Works	Clearance to Physical Location of Optus Asset				
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus conduits with less than 600mm of cover.  Not to be driven across Optus direct buried cable with less than 1.2 meters of cover.  Once off crossings permitted, multiple crossing (e.g. road construction or logging) will require Optus approval.  Accredited Optus Asset Locator to physically expose the Optus asset to verify actual depth.				
Mechanical Excavators, Farm Ploughing, Vertical Hole installation for water bore or fencing etc.	Not within 1 meter.  Accredited Optus Asset Locator to physically expose the Optus asset to verify actual location.				

### **ASSET CLEARANCES AFTER COMPLETION OF WORKS**

All Optus pits and manholes must be a minimum of 1 meter from the back of any kerb, 3.5 meters of the road surface without a kerb or not within 15 meters of street intersection.

In urban areas Optus conduit must have the following minimum depth of cover:

- Footway 600mm;
- Roadway 1 meter at drain invert and at road centre crown.

In rural areas Optus conduit must have a minimum depth of cover of 1 meter and direct buried cable 1.2 meters.

In cases where it is considered that the above clearances cannot be maintained at the completion of works, advice must be sought from the relevant Optus Damages and Relocations Team (refer "Further Assistance").

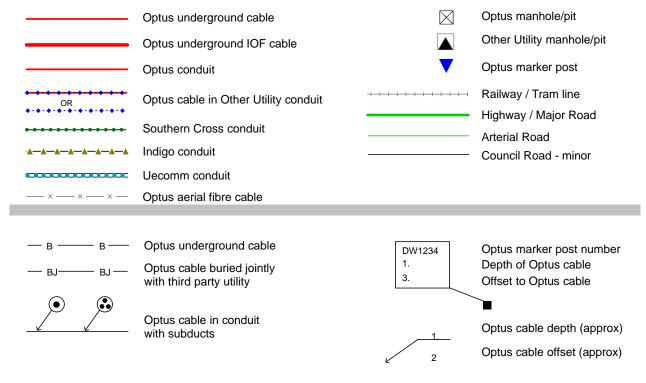
#### **FURTHER ASSISTANCE**

Further assistance on asset clearances, protection works or relocation requirements can be obtained by contacting the relevant Optus Damages and Relocations Team on the following email address:

NFODamages&RelocationsDropbox@optus.com.au

Further assistance relating to asset location drawings etc. can be obtained by contacting the Optus Network Operations Asset Analysis Team on 1800 505 777.

### **OPTUS ENGINEERING DRAWING SYMBOLS**



# **OPTUS**

# **Optus Accredited Asset Locators**

Name	Company Name	Phone	Email	State	Region/Service Area
Alan Cordner	Alcom Fibre Services Pty Ltd	0400 300 337	alcomfibre@bigpond.com	NSW/ACT	Sydney
Brad McCorkindale	Bradmac Locating Services	0434 157 409	brad.mac@bigpond.com	NSW/ACT	All
Troy Redden	On Point Utility Locating	1300 6676 468	troy@onpointlocating.com.au	NSW	Sydney Only
Shane Buckley	Cable & Pipe Locations	0408 730 430	sabuckley@bigpond.com	NSW/QLD	Armidale, Casino, Coffs Harbour, Dorrigo, Glenn Innes, Grafton, Inverell, Kempsey, Lismore, Nambucca, Port Macquarie, Tamworth, Taree, Tenterfield, Yamba
Philip Pegler	Down Under Detection Services (DUDS)	0418 267 964	apegler@duds.net.au	NSW	All
Tina Stanhope	SureSearch Underground Services	1300 884 520 0418 920 245	tina.stanhope@suresearch.com.au	NSW/ACT QLD	NSW, Sydney, Northern NSW, Canberra, QLD, South East QLD.
Leonard McGowan	Pipesure Australia	1300 411 811	len@pipesure.com.au	NSW	Sydney
Bruce Whittaker	Optical Fibre Technologies	0402 354 322	opticaltek1@aol.com	NSW	Sydney/Wollongong
Darryl Smith	Darryl Smith Electrical	02 6642 3731	office@dsmithelectrical.com.au	NSW	Grafton
George Koenig	Downunder Locations NSW Pty	0438 243 856	Downunderlocations@gmail.com	NSW	Tweed Heads, Gold Coast, Brisbane
Michael Grant	M&K Grant Bega Bobcats Pty Ltd	0427 260 423	zzbobcat@bigpond.net.au	NSW	Bega, Far South Coast
Antony Critcher	Geotrace Pty Ltd	0417 147 945	antony@geotrace.com.au	NSW	All Areas, Sydney, Wollongong, Newcastle, ACT
Anthony Lane	Hydro Digga	0447 774 000	locator@hydrodigga.com	NSW	All of NSW, ACT & South East Qld
Joshua Payne	Australian Utilities Management Pty Ltd	0427 833 222	aine@ausutilities.net.au	NSW	Sydney Metro
Nathan Ellis	Utility Locating Services	0404 087 555	nathan@utilitylocatingservices.com.au	NSW	Sydney

Dodrou Bullon	Durance	0450 268 012	and Share and an	NCW /OLD	Courth Foot OLD North are NCW
Rodney Pullen	Provac		rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Rodney Pullen	One Find Cables	0451 268 012	rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Drew Misko	Australian Subsurface Pty Ltd	0427 879 600	admin@australiansubsurface.com	NSW/ACT	All of NSW/ACT
Scott O'Malley	Coastal Cable Locators Pty Ltd	0427 975 777	skomalley@bigpond.com	NSW	South Coast- Snowy Mountains-Southern Highlands
Liam Bolger	<b>Brandon Construction Services</b>	0438 044 008	liam.bolger@hotmail.com	NSW	Sydney
Brett Pickup	All About Pipes	02 8763 4200	Brett.Pickup@allaboutpipes.com.au	NSW / VIC	All
Karen Joyce	Durkin Construction Pty Ltd	02 9712 0308	karen@durkinconstruction.com.au	NSW	Sydney
Timothy Laidler	Locate & Map	0431 191 669	tim@locateandmap.com.au	NSW	Sydney, Central Coast
Ken Brown	Riteway Traffic Control Pty Ltd	0419 212 969	kbrowne@ritewaytc.com.au	NSW	Central Coast, Hunter
Walter R Johansen	Steger & Associates	02 6296 4089	enquiries@steger.com.au	ACT/NSW	Canberra
Jean-Max Monty	Civilscan	0416 068 060	civilscan@bigpond.com	NSW	Sydney – Central Coast – Newcastle – Wollongong – Hunter Valley – Blue Mountains
Alan Hunter	Hunter Ground Search	02 4953 1244 0418 684 819	huntergroundsearch@bigpond.com	NSW	Newcastle, Central Coast, Hunter Valley, Mid North Coast, Liverpool Plains, Central West NSW.
Gilbert J Cook	Datateks Communications Specialists	0408 693 660	datateks@datateks.com.au	NSW	Southern NSW
Damien Black	Mid North Coast Hydro Digging	0418 409 465	dblack1@bigpond.com	NSW	Newcastle- foster-Taree- Wauchope -Port Macquarie - Kempsey -Coffs harbour
Neil Blenkinsop	Utility Mapping Pty Ltd	0427 318 681	nblenkinsop@utilitymapping.com.au	NSW	Sydney
Daniel Fox	Epoca Environmental Pty Ltd	02 4739 2465 0433 100 642	daniel@epocaenvironmental.com.au	NSW	All NSW, ACT
Rod Shaw	Cable Find	0478 887 073	rod@cablefind.com.au	NSW	Northern Rivers
Danny Carter	Online Pipe & Cable Locating	1300 665 384	danny@onlinepipe.com.au	NSW	Sydney, Newcastel, Canberra, Blue Mountains
Sam Romano	Locating Services	0403 065 510	sam.romano@locatingservices.com.au	NSW	NSW AII
Scott Allison	Crux Surveying Australia	02 9540 9940	sydneyoffice@cruxsurveying.com.au	NSW	Sydney Metro & Surrounding Areas

lan Brown	Peter Ellsmore & Associates	0439 423 708	ian.brown@ellsmore.com.au	NSW	Wollongong, Illawarra, South Coast, Southern Highlands, Macarthur & Sydney
Donna Wullaert	Commence Communications Pty Ltd	02 6226 3869 0428 595 620	admin@commencecomms.com.au	NSW	Canberra, Yass, Bungendore, Goulburn and Surrounding regional Areas
Stephen Fraser	Advanced Ground Locations	02 4930 3195 0412 497 488	steve agl@hotmail.com	NSW	Newcastle, Hunter Valley, Central Coast, Taree & Surrounding Areas
Andrew Findlay	LiveLocates	0429 899 777	info@livelocates.com.au	NSW	South Coast/ACT, Snowy Mountains
<b>Graeme Teege</b>	Armidale Electrical	02 6772 3702	office@armidale-electrical.com.au	NSW	Armidale
Myles Green	Australian Locating Services	1300 761 545	myles@locating.com.au	NSW	Sydney
Brett Wallin	Utility Scan	0426 354 051	brett@utilityscan.net	NSW	Sydney CBD and Regional areas
Daniel Hudson	One Search Locators	1300 530 420	daniel@onesearchlocators.com.au	NSW	All NSW, ACT
Tim Galaz	Utec Solutions	02 9389 0040	office@utecsolutions.com.au	NSW/QLD/VIC	All areas, NSW, QLD, VIC
Gary Laneyrie	Laneyrie Electrical	0412 079 079 0413 048 048	bindy@laneyieelectrical.com.au	NSW	Illawarra, South Coast, Hunter Region
Reece Gainsford	East Coast Locating Services	0431 193 111	eastcoastlocating@hotmail.com	NSW	Sydney, Maitland, Newcastle, Hunter, Port Stephens, Central Coast
Allan Clarke	The Control Group Pty Ltd	0421 960 017	allan@thecontrolgroup.com.au	NSW	Northern NSW
Simon Cook	Douglas Partners	0431 507 667	simon.cook@douglaspartners.com.au	NSW	NSW AII
Samual Boesen	Rubicof Cable & Pipe Locators	0403 285 352 0418 103 369	rubicof@optusnet.com.au	NSW	Cessnock
Craig Vallely	Aqua Freeze & Locate Pty Ltd	0458 774 440	service@aquafreeze.com.au	NSW	Sydney
Josiah Chapman- Hunter	Suk Truk Services Pty Ltd	0419 125 551 0478 004 606	services@suktruk.com.au	NSW	Hunter / Newcastle
Laurence Mead	Veris Australia	0419 770 560	i.mead@veris.com.au	NSW	Sydney
Jason Vane	Smartscan Locators PTY Ltd	0498 025 210	Admin@sslocators.com.au	NSW	Sydney
Alex Farcash	Newcastle Locating Services Pty Ltd	0410 698 599	Admin@newcastlelocatingservices.com.au	NSW	Newcastle, Hunter Valley, Central Coast, Taree & Surrounding Areas
Amer El Chami	Site Scan Pty Ltd	0449 992 520	office@sitescan.net.au	NSW	Sydney
Kaisar sefian	Australian Utility Search Pty Ltd	0424 841 888	kaisar@aususearch.com.au	NSW/ACT	All NSW, ACT

lan Brown	A1 Locate Services	0400 484 828	lan.brown@a1locate.com.au	NSW/ACT	All NSW, ACT
Alexander Bogdanoff	Expert Service Locating	0420 346 477	info@expertservicelocating.com.au	NSW/QLD	Brisbane, Gold Coast, Sunshine Coast Northern Rivers NSW
Justin Joseph S. Martinez	FJA Locating	0401 749 007	j.martinez@fjalocating.com.au	NSW, ACT, QLD, VIC	All regions
Rhiannon Kemps	Geoscope Utility Detection Services Pty Ltd	0432 296 323	simon@geoscopelocating.com.au	NSW	All regions
Laurence Mead	Astrea Pty Ltd	0413 849 666	admin@astrea.com.au.	NSW	Sydney Metro & Surrounding Areas
Bobby Friesz	VAC Group Operations (T/A Earth Radar)	0447 837 267	Bobby.Friesz@vacgroup.com.au	NSW	Sydney
Chris Hall	D C Locators Pty Ltd	0419 679 741	dcloc@powerup.com.au	QLD	Brisbane, Ipswich
Jeff Trackson	J.R & L.M Trackson Pty Ltd	0417 600 978	jtrackson@tracavoid.com.au	QLD	All
Benji Lee	LADS	0478 915 237	benji@ladsqld.com.au	QLD	South East QLD
Andrew Watson	Lambert Locations Pty Ltd	07 5562 8400	admin@lambertlocations.com.au	QLD	South East QLD & Northern NSW
Ross Clarke	FNQ Cable Locators Pty Ltd	0428 775 655	onlineco@bigpond.net.au	QLD	Far North QLD, Cape York & Peninsula
Col Greville	Bsure Locators	0488 520 688	admin@bsurelocators.com.au	QLD	Wide Bay Burnett and Central Qld
Mikael White	All Asset Locations	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Simon Griffin	Pensar Utilities	0458 800 267	sgriffin@pensar.com.au	QLD	Brisbane, Gold Coast, Sunshine Coast
Andrew Cowan	VAC Group Operations (T/A Earth Radar)	0447 008 806	andrew.cowan@vacgroup.com.au	QLD	South East and Central QLD
Jimmy Wilkins	GeoRadar Australia	0425 677 227	jimmy@georadar.net.au	QLD	Emerald, Bundeaberg
Beaumont Blake	PipeHawk CCTV	0435 558 533	accounts@pipehawkcctv.com.au	QLD	South East QLD & Northern NSW
Craig Waite	C Locate	0437 808 444	clocate@bigpond.com	QLD	South East QLD
QLD Operations	Utility Location Services	0499 775 095 07 3807 3552	gldops@utilitylocationservices.com.au	QLD	SouthEast QLD, Northern NSW
Andrew Watson	RPS AUS East	0408 839 723	andrew.watson@rpsgroup.com.au	QLD	Brisbane
Luke Steadman	Utility Mapping Pty Ltd	0472 867 197	Isteadman@utilitymapping.com.au	QLD	All
Robert Reed	All Asset Locations Pty Ltd	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Jenny Dziduch	1300 Locate Pty Ltd	1300 562 283	admin@1300locate.com.au	QLD	All Queensland, Northern NSW

Sam Hazel	Utility ID Underground Service Locators	0401 202 515	sam@utilityid.com.au	QLD	Southern QLD
Brendon Smith	Dynamic Hydro Excavations	1300 822 878	admin@dynamicexcavation.com.au	QLD	QLD, NSW, VIC
Marty Carlson	Surveywerx Pty Ltd	0488 842 110	mike@surveywerx.com	QLD	South East QLD
Ran Gledhill	Safe Dig Services	0408 944 228	rgsafedig@gmail.com	QLD	Brisbane / North Queensland
Ben Stephens	Electroscan (DTS Group)	0434 140 556	ben.s@electroscanqld.com.au	QLD	All
Adam Lloyd	Aussie HydroVac Services	07 3287 7818	adam.lloyd@aussiehydrovac.com.au	QLD	All
Gary Poppi	Ace Cable Locations	0431 517 837	garypoppi@bigpond.com	QLD	Wide Bay Burnett
Andrew McKenna	Taylros Development Strategists	03 95012800	a.mckenna@taylords.com.au	VIC/SA/TAS	Victoria
Olivier Davies	Central Locating PTY LTD	0439 995 894	Ollie@centrallocating.com.au	VIC/SA/TAS	Melbourne Surfcoast Ballarat
Tina Brereton	D-Tech Ground & Overhead Services	0421 697 090	tina@d-tech.net.au	VIC	Victoria
Josh Taylor	Advanced Locations Victoria	0427 846 716	josh@advancedlocationsvic.com.au	VIC	All
Ben Minutoli	Geelong Cable Locations	1800 449 543	ben@geelongcablelocations.com.au	VIC	Melbourne, Geelong, Country Victoria
Mick McGoldrick	Cavan Constructions	0404 241 679	mick@locatecables.com	VIC	Western Victoria
David Kelleher	Construction Sciences	03 9553 7236	utilities@constructionsciences.net	VIC	Victoria
Stuart Miles	ELS Environmental Location Systems	03 8795 7461	accounts@radiodetection.com.au	VIC	Victoria
Darren Dean	Asset Survey Solutions	1300 035 796	darren.dean@assetsurvey.com.au	VIC	Victoria
Alex Jones	Utility Mapping Pty Ltd	0417 413 353	ajones@utilitymapping.com.au	VIC	Victoria
Adam Linford	Gippsland Pipe & Cable Locations	0409 386 817	gippspac@hotmail.com	VIC	Gippsland
Thomas Pitt	Access Utility Engineering (AUE)	03 9580 0440	info@accessue.com.au	VIC	Victoria
Bernie Acabal	Taylors Development Strategists	03 9501 2800 0419 758 794	b.acabal@taylorsds.com.au	VIC	Victoria
Philong Nguyen	Asset Detection Services Pty Ltd	0413 949 400	phi.nguyen@assetdetection.com.au	VIC	VIC, NSW, TAS All areas
Maurice Tobin	Drain Solutions	1300 546 348	info@drainsolutions.com.au	VIC	Melbourne Metro
Nathan Kelleher	Seeker Utility Engineering	0439 691 840	nathan.kelleher@seekerutility.com.au	VIC	Melbourne
Jeffrey Ramos	VAC Group Operations (T/A Earth Radar)	0436 635 011	Jeffrey.ramos@earthradar.com.au	VIC	All

Ben Zurak	Veris Australia	03 7019 8400	melbourne@veris.com.au	VIC	All
Courtney Marson	CSA Specialised Service Pty Ltd	1300 859 829	courtney@csasepcialised.com.au	VIC/SA/TAS	All
Paul Murray	Able Pipe, Cable & Leak Location Services	0418 318 186	paul.murray6@bigpond.com	VIC	All
Infrastructure Civil Services	Trenchless Pipelaying Contractors (TPC)	08 8376 5911	tpc@trenchlesspipelaying.com.au	SA	All
Sean Nemeth	Enerven Energy Infrustructure Pty Ltd	0488 167 772	sean.nemeth@enerven.com.au	SA	Adelaide
SADB	SADB Civil Construction & Trenchless	08 8168 7200	reception@sadb.com.au	SA	Adelaide
Tony Simpson	Utility Mapping Pty Ltd	0438 630 146	tsimpson@utilitymapping.com.au	SA	All
Deninis Stray	Pinpoint Services Mapping	0428 917 020	dstray@pinpointsm.com.au	SA	All
JohnnyMcGlynn	Pinpoint Services Mapping	0447 185 231	jmcglynn@alexander.com.au	SA	All
Liam Gill	Michael Grear Surveys	08 82788732	ugsl@mgsurveys.com.au	SA	SA
Stefan Forsyth	Adelaide Pipline Maintenance Services	08 84272525	stefan@streamlinesa.com.au	SA	all NT, WA, QLD
Galen Shanahan	VAC Group Operations (T/A Earth Radar)	0447 837 000	Galen.Shanahan@vacgroup.com.au	SA	All
Marilyn Dentice	Cable Locates & Consulting	08 9524 6600	admin@cablelocates.com.au	WA	Metro & Country
Lisa Scofield	Abaxa	08 9256 0100	accounts@abaxa.com.au	WA	All
Derek McShane	Subterranean Service Locations	0420 862 426	Derek@sslwa.com.au	WA	Midwest/Gascoyne
Ben Upton	TerraVac Vacuum Excavation	0427 531 119	locations@terravac.com.au	WA	All
Dale Shearsmith	Subtera Subsurface Locating	1300 046 636	dale@subtera.com.au	WA	All
Liam Davies	Bunbury Telecom Service Pty Ltd	08 9726 0088	liam@btswa.com.au	WA	South West WA
Tammy Thorp	B.C.E Spatial	08 9364 6408	admin@bcespatial.com.au	WA	Perth Metro & Regional
Alex Jones	Utility Mapping Pty Ltd	0417 413 353	ajones@utilitymapping.com.au	WA	All
Chris Lee	Pulse Locating	0437 289 861	enquiries@pulselocating.com.au	WA	Perth
Morgan O'Connor	Kier Contracting	1300 543 728	morgan@kier.com.au	WA	Perth Metro & Greater region, Regional WA
Nigel Nunn	CCS Group / Utility Locating Solutions	08 9385 5000	enquiry@ccswa.com.au	WA	Perth
Paul Stevenson	Geographe Underground Services	0427 523 811	paul.stevenson@geographeunderground.com.au	WA	All

Jeremy Brown	Spotters Asset Locations Pty Ltd	0459 130 677	jeremy@spottersassetlocations.com.au	WA	All
Reece Topham	Prime Locate	0400 888 406	reece@primelocate.com.au	WA	All
Mark Docherty	RM Surveys	08 9457 7900	mark.docherty@rmsurveys.com.au	WA	All
Jonathon Sylva	Advance Scanning Services	1300 738 118	bookings@advancescanning.com.au	WA	All
Tim Daws	Award Contracting	0411 878 895	info@awardcontracting.com.au	WA	City & Regional
Dave Turner	Anywair Pipe & Cable	0418 890 071	dave@anywair.com.au	NT	All NT, WA, QLD
Steve Gault	Northern Comms	0407 904 319	steve@northerncomms.net.au	NT	All
Wayne Parslow	Danisam	0417 089 865	danisam@westnet.com.au	NT	Darwin NT and Surrounds
Elizabeth Young	Archers Underground Services Locations (AUS Locations)	03 6245 1298	admin@auslocations.com.au auslocations@bigpond.com	TAS	All
Patrick Monaghn	Paneltec Group	0447 797 544	patrick@paneltec.com.au	TAS	All
Scott Richardson	AJ Water & Leak Detection	0457 710 680	admin@ajwater.com.au	TAS	All



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed, please raise a new enquiry.

Sequence Number: 211392260 Date Generated: 16 May 2022



For all Optus DBYD plan enquiries – Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208









# **Guide to reading Sydney Water DBYD Plans**



This guide will help you understand our plans and what our services are.

Symbol	Meaning	Symbol	Meaning
225 PVC	Sewer main with flow arrow and size type text.	- Wall	Sewer vertical
100 t 100 t 100 t 100 t 100 t	Disuses sewer main This means the sewer has been disused but remains in the ground.	SP0882	Sewer pumping station
1.7	Sewer maintenance hole with upstream depth invert.		
<del>-</del>	Sewer Sub-surface chamber		Pressure sewer main These are also found in Vacuum sewer areas.
~	Sewer Maintenance hole with overflow chamber		Pressure sewer Pump unit Alarm, electrical cable and pump unit.
	Sewer Ventshaft EDUCT		Pressure sewer property valve boundary assembly
<b>—</b>	Sewer Ventshaft IDUCT	<del></del>	Pressure sewer stop valve
10.6	Sewer property connection point With chainage to downstream maintenance hole.		Pressure sewer reducer / taper
Concrete Encomed	Sewer concrete encased section		Pressure sewer flushing point
	Sewer Rehabilitation	$\rightarrow$	Vacuum sewer division valve
TMS O	Sewer terminal maintenance shaft	—ф	Vacuum sewer vacuum chamber
— ©	Sewer maintenance shaft	<del>_</del>	Vacuum sewer clean out pot
	Sewer rodding point		Stormwater pipe
-	Sewer lamphole		Stormwater channel









Symbol	Meaning	Symbol	Meaning
	Stormwater gully	<del> x </del>	Potable water stop valves with Tapers
	Stormwater maintenance hole	<del></del> 8	Potable water closed stop valve
200 PVC	Watermain – potable drinking water With size type text.		
	Disconnected watermain potable drinking water  This means the watermain has been disused but remains in the	-	Potable water air valve
	ground.		D. delle med med le
	Recycled watermain		Potable water valve
	Special supply conditions – potable drinking water	- ⊗	Potable water scour
	Special supply conditions – recycled water	+	Potable water reducer / taper
	Restrained joints – Potable drinking water	<del></del>	Potable water vertical bends
	Sewer concrete encased section		Potable water reservoir
	Restrained joints – Potable drinking water	<del>-x •</del>	Recycled water is shown as per potable above. Colour as indicated
_	Detable water budgest	-	Private potable water main
	Potable water hydrant  Potable water maintenance hole		Private recycled water main
			Private recycled water main
<del></del> ×-	Potable water stop valve		Private sewer main
<u> </u>	Potable water stop valve with Bypass		









PIPE TYPES		PIPE TYPES	
ABS	Acrylonitrile Butadiene Styrene	AC	Asbestos Cement
<b>BRICK</b>	Brick	CI	Cast Iron
CICL	Cast Iron Cement Lined	CONC	Concrete
COPPER	Copper	DI	Ductile Iron
DICL	Ductile Iron Cement (mortar) Lined	DIPL	Ductile Iron Polymeric Lined
EW	Earthenware	FIBG	Fibreglass
<b>FL BAR</b>	Forged Locking Bar	GI	Galvanised Iron
GRP	Glass Reinforced Plastics	HDPE	High Density Polyethylene
MS	Mild Steel	MSCL	Mild Steel Cement Lined
IPE	Polyethylene	PC	Polymer Concrete
PP	Polypropylene	PVC	Polyvinylchloride
PVC - M	Polyvinylchloride, Modified	PVC - 0	Polyvinylchloride, Oriented
PVC - U	Polyvinylchloride, Unplasticised	RC	Reinforced Concrete
RC-PL	Reinforced Concrete Plastics Lined	S	Steel
SCL	Steel Cement (mortar) Lined	SCL IBL	Steel Cement Lined Internal Bitumen
SGW	Salt Glazed Ware	SPL	Steel Polymeric Lined
SS	Stainless Steel	STONE	Stone
VC	Vitrified Clay	WI	Wrought Iron
WS	Woodstave		

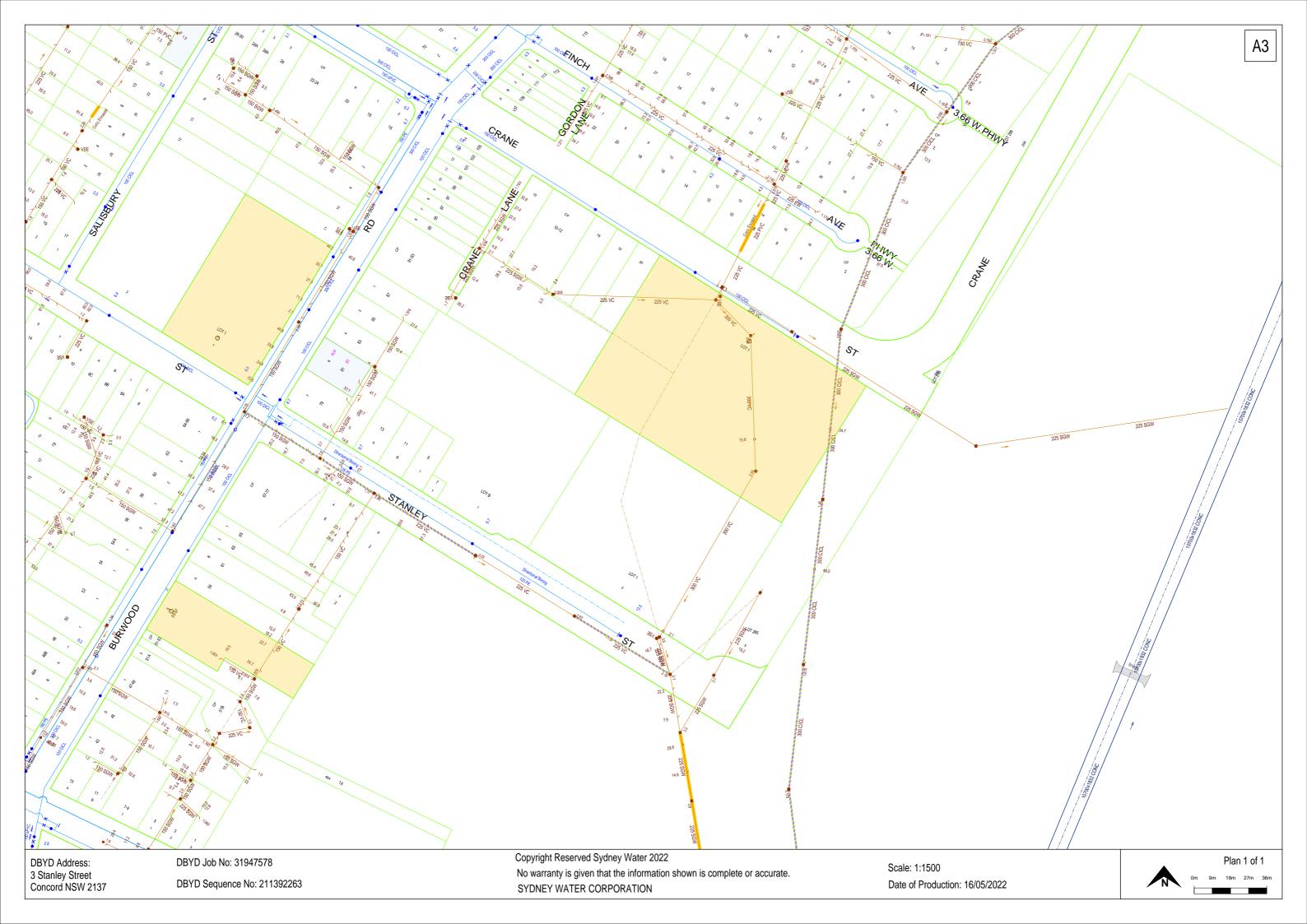


### **Further Information**

Please consult the Dial Before You Dig enquiries page on our website.

For general enquiries please call the Customer Contact Centre on 132 092

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)









# Important information about Dial Before You Dig

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

- 1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.
- 2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:
- (a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service
- (b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like
- (c) is approximate only and is therefore not suitable for scaling purposes
- (d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.
- 3 You are responsible for, amongst other things:
- (a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used
- (b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems
- (c) protecting underground structures, including Sydney Water's pipelines, from damage and interference
- (d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others
- (e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you









- (f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures
- (g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure
- (h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

  Important Information Sydney Water DBYD Plans August 2012 Page 2 of 3
- 4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law
- (a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:
- (i) the supplying of the Information again; or
- (ii) payment of the cost of having the Information supplied again;
- (b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:
- (i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and
- (ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;
- (c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and
- (d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.
- 5 "Sydney Water" means Sydney Water Corporation and its employees, agents, representatives and contractors. "Dial Before You Dig" means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to "you" include references to your employees, agents, representatives, contractors and anyone else using the Information. References to "Loss" include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

Important Information – Sydney Water DBYD Plans August 2012 Page 3 of 3 Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at www.sydneywater.com.au, where you will find the following documents under 'Dial Before You Dig':







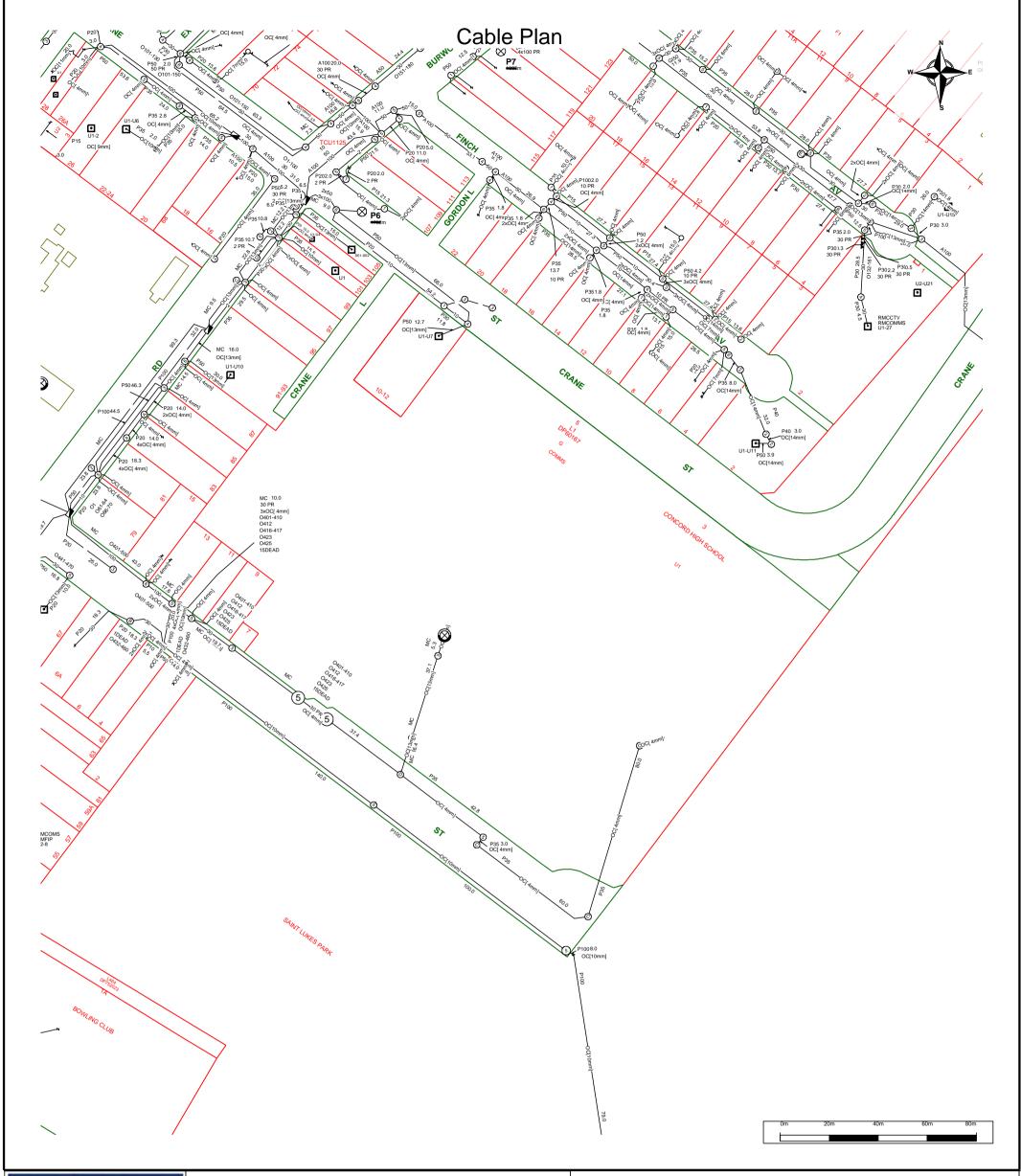


- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

### Or call 13 20 92 for Customer Enquires.

Note: The lodging of enquiries via www.1100.com.au will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

This communication is confidential. If you are not the intended recipient, please destroy all copies immediately. Sydney Water Corporation prohibits unauthorised copying or distribution of this communication.





For all Telstra DBYD plan enquiries email - Telstra.Plans@team.telstra.com

For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

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Sequence Number: 211392257

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

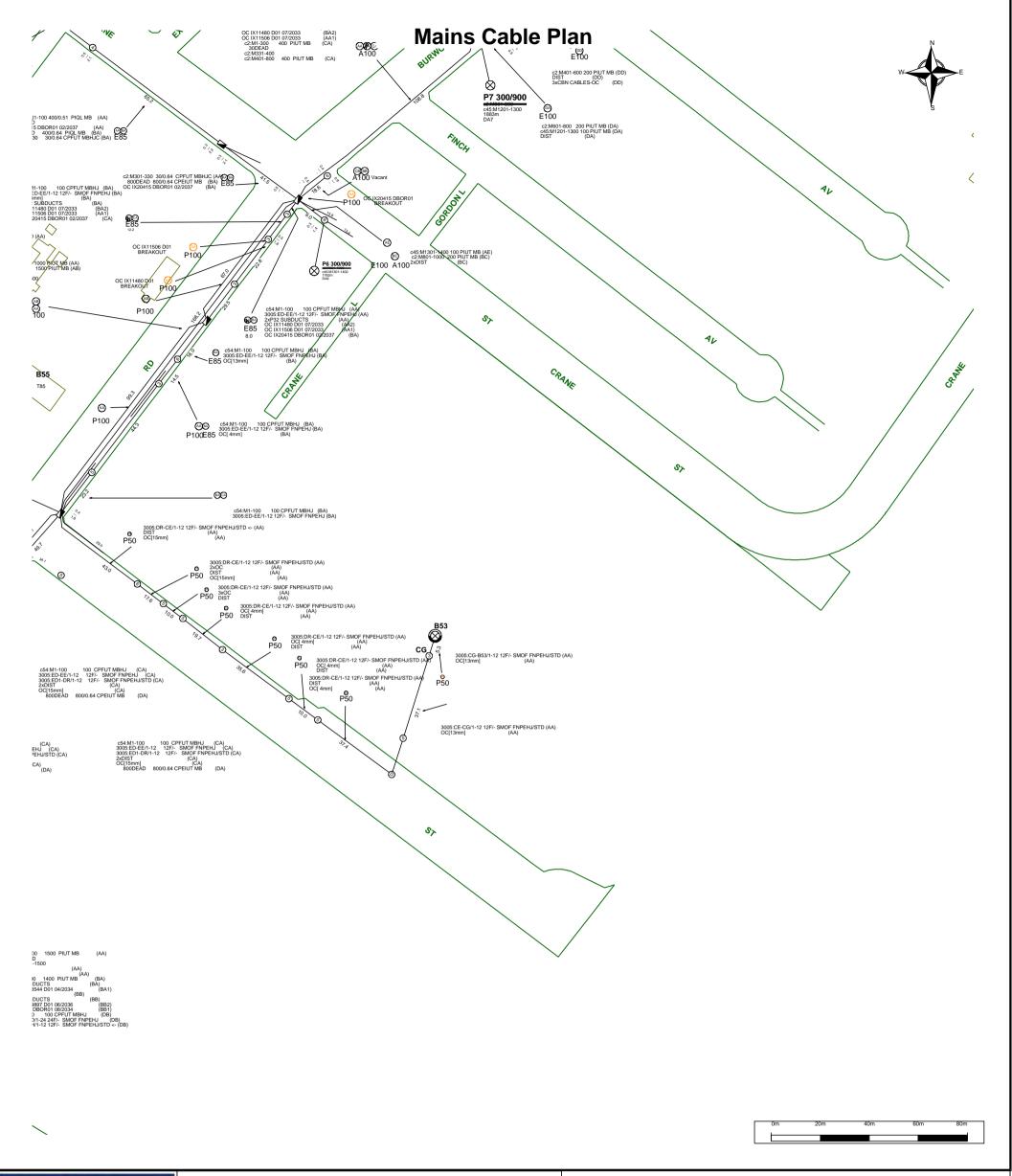
## The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.





For all Telstra DBYD plan enquiries email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 16/05/2022 10:23:13

Sequence Number: 211392257

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

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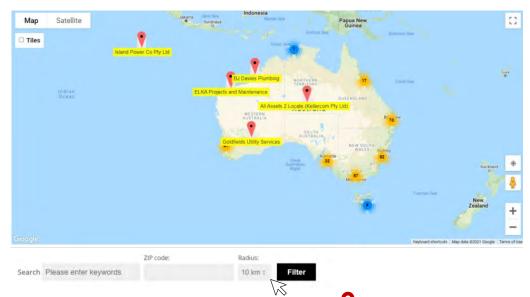
## **Certified Locating Organisations (CLO)**

Find the closest CLO to your worksite on: https://dbydlocator.com/certified-locating-organisation/

Read the disclaimer and click:



A national map and an A-Z list of Certified Locating Organisations is displayed.



Use the map to zoom to your work area and choose the closest Locator indicated.

OR search by entering the **postcode** of your work area.

- 1. Enter the post/zip code
- 2. Choose your search radius
- **3.** Click filter (If there is no result, you may have to increase the search radius)
- 4. Click on the closest for CLO details or view the results displayed below the map



Locator skills have been tested, and the Organisation has calibrated location and safety equipment.

Telstra is aware of each Certified Locating Organisation and their employee locators.

Only a DBYD Certified Locator registered with a Certified Locating Organisation is authorised to access Telstra network for locating purposes.

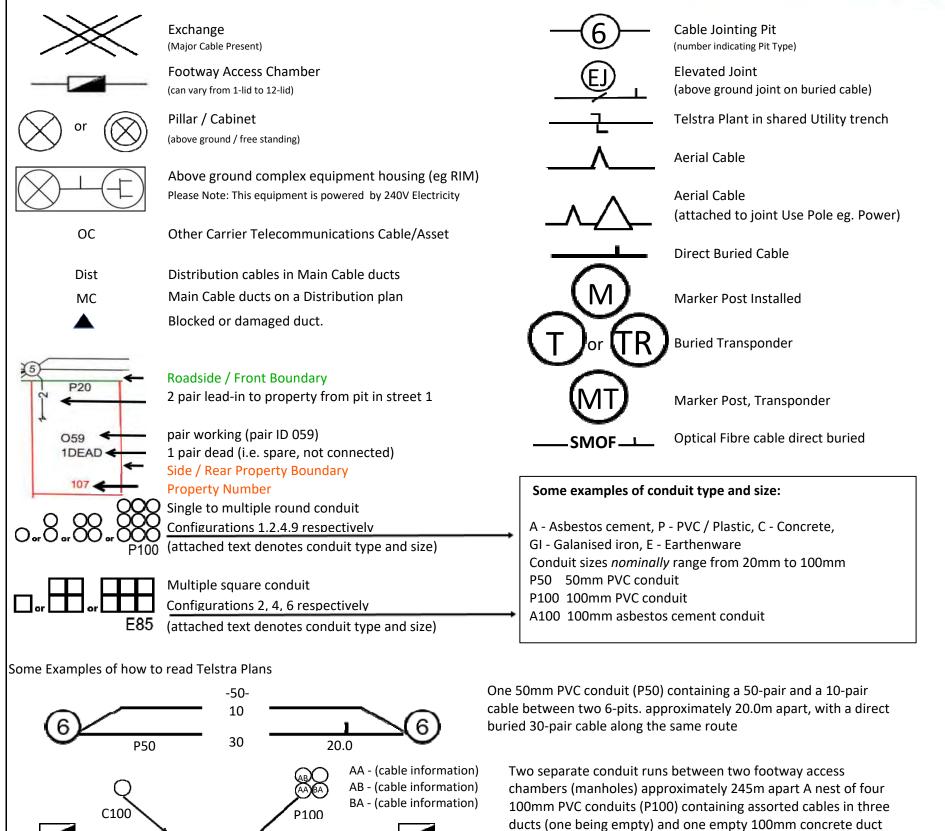
Each Certified Locator working for a CLO is issued with a photo ID Card, authorising them to access Telstra pits and manholes for the purpose of cable and plant locations.

Please ask to see your Locators' CLO ID Card.

## **LEGEND**



#### For more info contact a Certified Locating Organisation or Telstra Plan Services 1800 653 935



**WARNING:** Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

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# Dial Before You Dig

# Think before you dig

This document has been sent to you because you requested plans of the Telstra network through Dial Before You Dig.

If you are working or excavating near telecommunications cables, or there is a chance cables are located near your site, you are responsible to avoid causing damage to the Telstra network.

Please read this document carefully. Taking your time now and following the steps below can help you avoid damaging our network, interrupting services, and potentially incurring civil and criminal penalties.

Our network is complex and working near it requires expert knowledge. Do not attempt these activities if you are not qualified to do so.

## Your checklist





### 1. Plan

Plan your work with the latest plans of our network.

Plans provided through the DBYD process are indicative only\*.

This means the actual location of our asset may differ substantially from that shown on the plans.

Refer to steps 2 and 3 to determine actual location prior to proceeding with construction.



## 2. Prepare

Engage a DBYD Certified Locating Organisation (CLO) via <u>dbydlocator.com</u> to identify, validate and protect Telstra assets before you commence work.



## 3. Pothole

Validate underground assets by potholing by hand or using non-destructive vacuum extraction methods.

Electronic detection alone (step 2) is not deemed to validate underground assets and must not be used for construction purposes.

If you cannot validate the Telstra network, you must not proceed with construction.



### 4. Protect

Protect our network by maintaining the following distances from our assets:

- > 1.0m Mechanical Excavators, Farm ploughing, Tree Removal
- > 500mm Vibrating Plate or Wacker Packer Compactor
- 600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant
- 1.0m Jackhammers/Pneumatic Breakers
- 2.0m Boring Equipment (in-line, horizontal and vertical)



## 5. Proceed

You can proceed with your work only once you have completed all the appropriate preparation, potholing and protection.

## Useful information



## Report any damage immediately



https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment



13 22 03

If you receive a message asking for an account or phone number say "I Don't have one" Then say "Report Damage" then press 1 to speak to an operator.

## Relocating assets

If your project requires the relocation of a Telstra asset, please contact the Telstra Network Integrity Group:



1800 810 443 (AEST business hours only)



NetworkIntegrity@team.telstra.com

Never try to move or alter our network infrastructure without authorisation. By law, only authorised people can work on our assets or enter a facility owned or operated by us. Any interference, including unauthorised entry or tampering, may result in legal action.

## Further information

Plan enquiries



1800 653 935 (AEST business hours only)



Telstra.Plans@team.telstra.com

Information on how to find cables and request asset relocations:

https://www.telstra.com.au/consumer-advice/digging-construction

Asset Plan Readers

PDF <u>Adobe Acrobat Reader DC Install for all versions</u>
DWF Download Design Review | DWF Viewer | Autodesk

# Disclaimer and legal details



\*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of **Telstra's** networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near **Telstra's** network and the importance of taking all of the necessary steps to confirm the presence, alignments and various depths of **Telstra's** network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. The 5 **P's** to prevent damage to Telstra assets are listed above. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all of the information received from other Utilities and understand that some Utilities are not a part of the DBYD program and make your own enquiries as appropriate. It is the responsibility of the entities undertaking the works to protect **Telstra's** network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or Certified Locating Organisation. The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details.

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

#### Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Planned Services.

Telstra does not accept any liability or responsibility for the performance of or advice given by a Certified Locating Organisation. Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

#### Privacy Note

Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at <a href="https://www.telstra.com.au/privacy">www.telstra.com.au/privacy</a> or by calling us at 1800 039 059 (business hours only).



# Spatial Services Works likely to impact survey marks

Penalties apply for unauthorised removal, damage, destruction, displacement, obliteration or defacing of survey marks

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## Legislation

Survey marks are protected under the *Surveying and Spatial Information Act 2002 (NSW) Section 24.* The following penalties and orders apply for unauthorised removal, damage or disturbance of survey marks:

- Maximum penalty of 25 units, currently
   \$2,750 per mark; and
- up to \$10,000 per mark in compensation to the Surveyor-General towards the cost of reinstatement of each survey mark; and
- up to \$10,000 per mark in compensation to any other person towards any loss or damage suffered by that person as a consequence of the offence.

If works are likely to impact a survey mark, an application under the *Surveying and Spatial Information Regulation 2017 Clause 90* must be lodged with the Surveyor-General.

## Why are survey marks important?

Survey marks are a State asset and provide a wealth of important information to a wide range of people in the community. They are used to support the surveying of property boundaries and easements, and are important for engineering, road building, mapping and other land surveys.

The loss of survey marks can significantly degrade the integrity of the legal property boundaries and impact on the costs of development projects that depend upon position and height.

## How do I preserve survey marks?

Surveyor-General's Direction No.11 - Preservation of Survey Infrastructure provides directions on how to comply with the Legislation.

You can find the Direction on the following link: <a href="http://spatialservices.finance.nsw.gov.">http://spatialservices.finance.nsw.gov.</a>
au/ data/assets/pdf\_file/0005/217094/
SG\_Directon\_No11\_Final4.pdf

A Registered Land Surveyor will be able to provide advice about the preservation of survey infrastructure. A list of Registered Land Surveyors is available from the Board of Surveying and Spatial Information website: <a href="http://www.bossi.nsw.gov.au/about/find\_aregistered\_surveyor">http://www.bossi.nsw.gov.au/about/find\_aregistered\_surveyor</a>

Additional information to assist with best practice guidelines for road infrastructure development can be found in Roads and Maritime Services QA Specification *G71* – *Construction Surveys* by following the link: <a href="http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/specifications/g071.pdf">http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/specifications/g071.pdf</a>

## Types of survey marks

There are many types of survey marks used for various purposes. Many are buried and may only be identified by a Registered Land Surveyor. Some examples of common survey marks can be seen below.

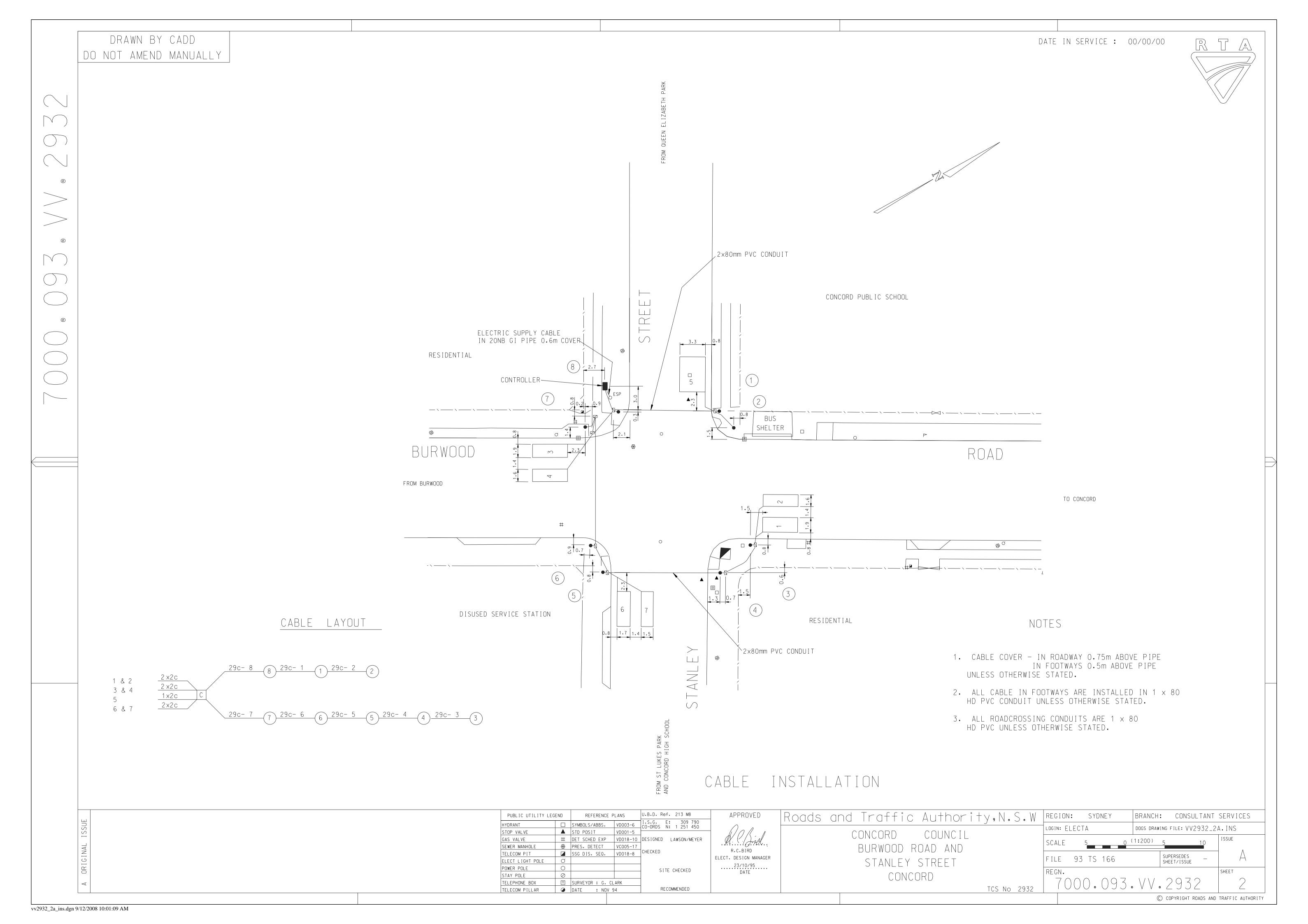


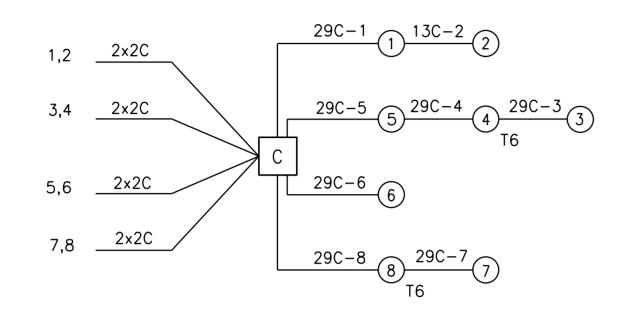
#### More information

For more information or to obtain advice on compliance with Legislation, please forward your enquiry to:

<u>Surveyor-General-Approvals@finance.nsw.gov.au</u>

Applications to remove a Survey Mark can be lodged here: <a href="http://spatialservices.finance.">http://spatialservices.finance.</a>
<a href="nsw.gov.au/surveying/surveying\_services/forms\_and\_applications/survey\_marks\_removal">http://spatialservices.finance.</a>
<a href="nsw.gov.au/surveying/surveying\_services/forms\_and\_applications/survey\_marks\_removal">http://spatialservices.finance.</a>
<a href="mailto:removal">removal</a>
<a href="mailto:removal">removal</a>



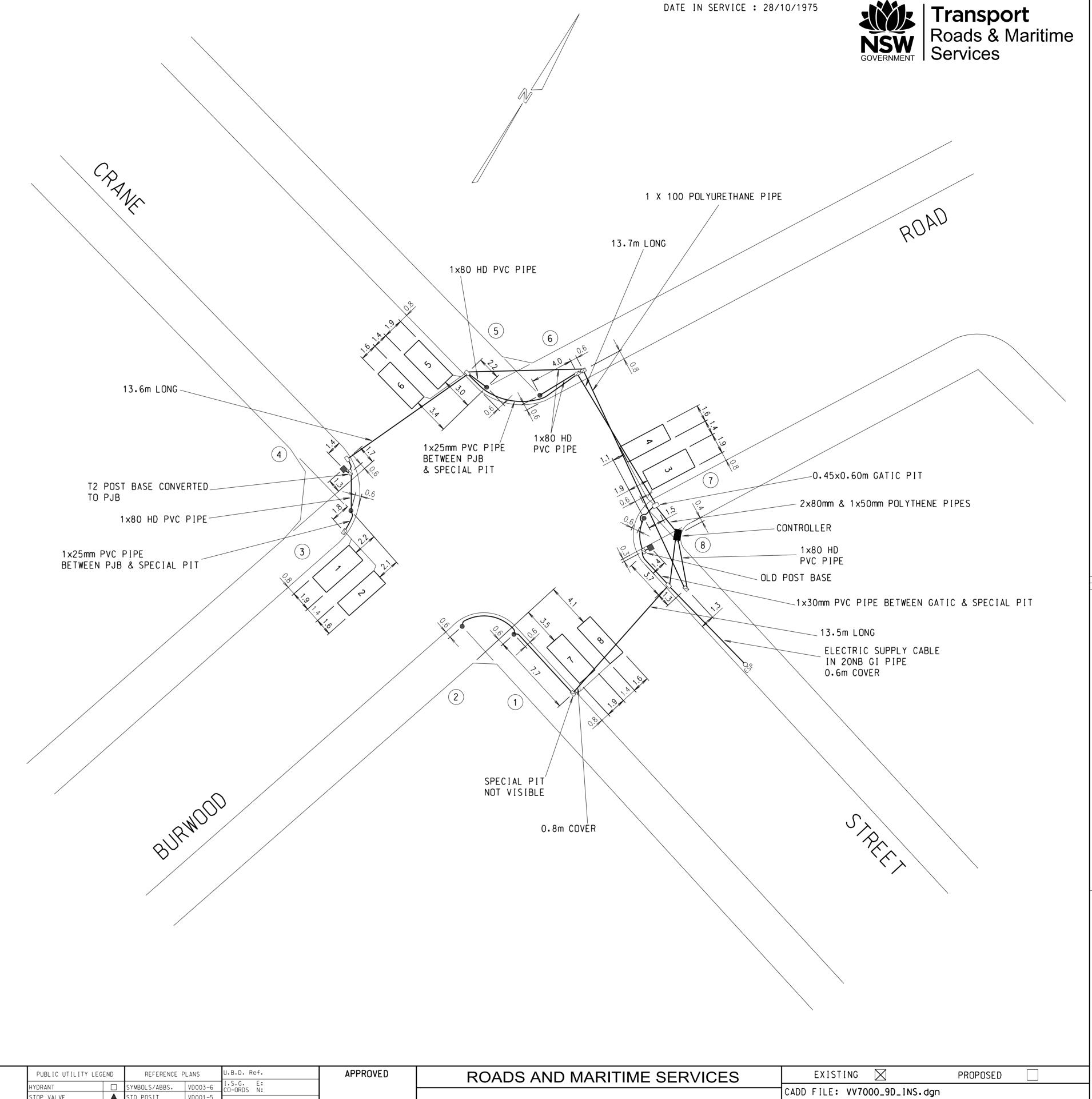


CABLE LAYOUT

## NOTES

- 1. THE COVER ABOVE CONDUITS IS 0.6m IN ROADWAYS AND 0.45m IN FOOTWAYS UNLESS OTHERWISE STATED.
- 2. ALL CABLE IN FOOTWAYS ARE DIRECT BURIED UNLESS OTHERWISE STATED.
- 3. ALL ROADCROSSING CONDUITS ARE 1  $\times$  50 NB GI PIPE UNLESS OTHERWISE STATED.
- 4. SPECIAL COVERED PITS SHOWN THUS 

  SEE PLAN 1C001-5
  UNLESS OTHERWISE STATED.



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Щ	PUBLIC UTILITY LEGEND	REFERENCE PLANS	U.B.D. Ref. I.S.G. E:	APPROVED	ROADS AND MARITIME SERVIC		EXISTING 🔀	PROPOSED
S 2 N N N N N N N N N N N N N N N N N N	STOP VALVE	STD POSIT VD001-5	CO-ORDS N:	-			CADD FILE: VV7000_9D_INS.dgn	
A L I A WAE  WWAE  W.A.F.E  CABL  M. M. A.E.E  M. M. M. A.E.E  M. M	GAS VALVE # SEWER MANHOLE ₩	DET SCHED EXP VD018-10 PRES. DETECT VC005-17	DESIGNED TUPA	& C Biol	BURWOOD ROAD		SCALE 5 0 (1:200)	5 10
G I N. WAS	TELECOM PIT  ELECT LIGHT POLE	SSG DIS. SEQ. VD018-8 DESIGN LAYOUT SHEET 1	CHECKED C.AYO 11/95	R.C. BIRD	AND CRANE STREET	Ī	FILE 93 TS 119	SUPERSEDES SHEET/ISSUE 2E
DRI ORI 12/02 12/02 04/06	POWER POLE O	CABLE CHART SHEET 10	SITE CHECKED	ELECTRICAL DESIGN MANAGER	CONCORD	ļ.	REGN.	SHEET
A A LUPA B ISSU C A B L SSU WAE C C ISSU WAE C C ISSU WAE C C C ISSU WAE C C C ISSU WAE C C C C C C C C C C C C C C C C C C C	TELEPHONE BOX T	SURVEYOR :	RECOMMENDED	12/95 DATE		S No 1125	7000.093.VV	.1125   9

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix D. Soil Borelogs

Project Refs   2002/0000-09-090   Control MAN Control (16-78) and 090   Control (16-78) an	iE	En	Vi			MV	/0 <sup>2</sup>	1	Senio	or Driller Name:	Nares Chint i	sh halapud	a	nd notes:	20
Excession Services Chicago May 2017 1			Pr	oject l	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	20/06	6/2022	Encountere	d (mbgs) ∇:	5.1
Control Contro				Locat	ion:	3 Stanley	Street,	Concord NSW 2137			20/06	6/2022	Grou Stabilised (	undwater mbgs) ▼:	
The control of the co			Eastir	ng, Nort	hing:	-33.8643285,	151.1090	737	Screen	Length (m):	-		Dian	neter (m):	90 mm / 50 mm
The control of the co		Drilling	g/Excavato	or Comp	oany:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:			Filter Pack Gr		0.0
Company of the content of the cont		Drill/Exc	cavator Rig	g Detail:	:	Ute mounted	drill rig		Con	mpletion:	well instal stand pipe	lation - I up with	Well Pipe	material:	PVC
ON AMERICA:  To a control of the con	Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	uscs	Samples	Analysed	Material Description	Moisture	Water Level	,	Well D	liagram licable)	PID (ppm)	Odour
ON MOREULS. V gravely carely (clark), Clark Brown, Sampling through mounts (Bill), Fill. (3 to 3.5 mags) M. Survy, Cement 0.2 oil    2								Well stickup 0.9 m. Grass surface. (0 to 0 mbgs)							
Flight Auger  OH MW02/1.5.  OH	2	6.0			ОН	MW01/0.2	Y	gravelly sandy CLAY: poorly sorted, high plasticity (dark), Dark Brown. Sampling through mounds (fill). FILL. (0 to 3.5 mbgs)	М				Cement	0.2	nil
		3.0				MW01/1.5, MW01/4.5		colour change to grey with depth. NATURAL. (3.5 to 6 mbgs)						0.1	
	- 7 - 7 	1.0											Backfill		
	Ė	F I													

iE	- -	vi			MV	/02	2	Senie	or Driller Name:	Nares Chinti	sh halapud	Development I	Purge (L) nd notes:	20
							W Concord NSW, Concord HS PSI and DSI	D	ate Start:	20/06	6/2022	Grou Encountere	undwater d (mbgs)	3
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Dat	te Finish:	20/06	6/2022		undwater	2.365
		Eastin	g, Nort	hing:	-33.864444, 1	51.10914	42	Screen	n Length (m):	-		Bore Diame		90 mm / 50 mm
	Drilling	g/Excavato	r Comp	oany:	Structerre Co	nsulting E	Engineers (NSW) Pty Ltd	Surfac	e mAHD:			Filter Pack Gr	ain Diam (m):	0.0
		cavator Rig	) Detail:	:	Ute mounted	drill rig		Cor	mpletion:	Monit well install stand pipe v monu	lation - I up with	Well Pipe	material:	PVC
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level		Well [	Diagram Dicable)	PID (ppm)	Odour
							Compacted sand surface. Well stick-up 0.455 m (0 to 0 mbgs)							
1 2 2 3	63	Flight		OL	MW02/0.2	Y	silty CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (0 to 3.2 mbgs)	М	▼ ▽			Slurry/ Cement  Bentonite	0.1	nil
5	3.3			СН	MW02/4.5	Y	CLAY: well sorted, high plasticity (light), Grey-orange and Pale Brown. NATURAL. (3.2 to 6 mbgs)	М				Sand	0.1	nil

iF	- - n	vi			MV	/0:	3	Senio	or Driller Name:	Nares Chintr	h nalapud	Development a	Purge (L) nd notes:	20
							W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	20/06	2022	Gro Encountere	undwater d (mbgs)	
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Dat	te Finish:	20/06	2022		undwater	1.48
		Eastir	ng, Nort	hing:	-33.8644741,	151.1089	789	Screer	Length (m):	-		Bore Diame		90 mm / 50 mm
	Drilling	g/Excavato	or Com	oany:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surfac	e mAHD:	7.9		Filter Pack Gr	rain Diam (m):	0.0
	Drill/Exc	avator Rig	g Detail		Ute mounted	drill rig		Cor	npletion:	Monitor well install gattic covers box.	ation -	Well Pipe	material:	PVC
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level	\ \	Well D	iagram licable)	PID (ppm)	Odour
				GW		N	Asphalt surface. Top of casing 0.07 mbgs. (0 to 0 mbgs)  gravelly GRAVEL: well sorted, loose, Asphalt and roadbase. Bitumen/roadbase FILL. (0 to 0.05 mbgs)	М		-	-			nil
1	6.9			OL	MW03/0.2	Y	sandy gravelly CLAY: poorly sorted, low plasticity (dark), Grey and Dark Brown. FILL. (0.05 to 1.8 mbgs)	М	•				0.1	nil
3 3	4.9	Flight Auger		ОН	MW03/4.5	Y	CLAY: well sorted, med plasticity (dark), Reddish Brown. No GW inflow observed. Refusal at 5.1 mbgs NATURAL. (1.8 to 5.1 mbgs)	М				Bentonite	0.1	nil
5	2.9	IIM/										Backfill		

iE	En	vi			ВН	01		Senio	or Driller Name:	Naresh Chintha i	alapud	Development F	Purge (L) nd notes:	-
		Pro	oject F	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/2	2022	Grou Encountere	indwater d (mbgs) ∇:	-
			_ocati	on:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/2	2022	Grou Stabilised (r	ındwater mbgs) ▼:	-
		Eastin	g, Norti	ning:	-33.863928, 1	51.10850	19	Screen	Length (m):	-		Bore Diame	ter / Well neter (m):	90 mm
	Drilling	g/Excavato	r Comp	any:	Structerre Co	nsulting E	ngineers (NSW) Pty Ltd	Surface	e mAHD:	11.5		Filter Pack Gr		-
	Drill/Exc	avator Rig	Detail:		Ute mounted	drill rig		Con	mpletion:	Backfill		Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram icable)	PID (ppm)	Odour
	F	Hand Auger		OL	BH01/0.2, QS01, QS01A	Υ	Grass surface. (0 to 0 mbgs)  gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0	nil
Logo	ged By:	IW			Checked By		MN							

iΕ	- -	Vi			ВН	02		Senio	or Driller Name:	Nares Chinti i	sh nalapud	Development a	Purge (L) and notes:	-
		Pr	oject	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06	/2022	Gro Encountere	undwater d (mbgs) ∇:	-
			Locat	tion:	3 Stanley	Street,	Concord NSW 2137	Dat	te Finish:	21/06	/2022	Gro Stabilised (	undwater mbgs) ▼:	-
		Eastir	ng, Nor	thing:	-33.8635049,	151.1078	139	Screen	Length (m):	-		Bore Diame	eter / Well meter (m):	90 mm
	Drillin	g/Excavato	or Com	pany:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:	14.4		Filter Pack Gr	rain Diam (m):	-
	Drill/Exc	cavator Rig	g Detail	l:	Ute mounted	drill rig		Con	npletion:	Backf	ill	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
							Grass surface. (0 to 0 mbgs)							
_		Hand Auger		OL	вно2/0.2	Y	gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0	nil
_ _ _														

iE	En	vi			BH	03		Senio	or Driller Name:	Naresi Chinth	n alapud	Development a	Purge (L) and notes:	-
		Pro	oject	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/	2022	Gro Encountere	undwater ed (mbgs) ∇:	-
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Dat	e Finish:	21/06/	2022	Gro Stabilised (	undwater mbgs) ▼:	-
		Eastin	ng, Nort	thing:	-33.8634954,	151.1078	7717	Screen	Length (m):	-		Bore Diame Diar	eter / Well neter (m):	90 mm
	Drillin	ıg/Excavato	or Com	pany:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:	14.2		Filter Pack Gr	rain Diam (m):	-
	Drill/Exc	cavator Rig	g Detail	:	Ute mounted	drill rig		Con	npletion:	Backfi	I	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			agram icable)	PID (ppm)	Odour
	,						Grass surface. (0 to 0 mbgs)							
F		Hand Auger		OL	вн03/0.2	Υ	gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0.1	nil

İ	Ξn	Pro	oject I Locat	Ref:	3 Stanley	- SINS Street,	W Concord NSW, Concord HS PSI and DSI Concord NSW 2137	Date Date	or Driller Name: ate Start: e Finish:	21/06	nalapud /2022	Groi Encountere	undwater d (mbgs) ∇: undwater mbgs) ▼:	-
			or Comp	oany:	-33.8637828, Structerre Col	nsulting E	546 Ingineers (NSW) Pty Ltd	Surface	(m): e mAHD: mpletion:	-	ill		neter (m): ain Diam (m):	90 mm
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	es	Analysed	Material Description	Moisture	Water Level		Vell D	iagram licable)	PID (ppm)	Odour
-	F	Hand Auger		CL	BH04/0.2, QS02	Υ	Grass surface. (0 to 0 mbgs)  gravelly CLAY: well sorted, low plasticity (light), Brown or Pale Brown. FILL. (0 to 0.3 mbgs)	SM				Backfill	0	nil
	gged By:	IW			Checked By		MN							

iE	- -	vi			ВН	05		Senio	or Driller Name:	Nares Chinth	h nalapud	Development I	Purge (L) nd notes:	-
		Pro	oject F	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/	/2022	Grou Encountere	undwater d (mbgs) ∇:	-
			_ocati	on:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/	2022	Grou Stabilised (	undwater mbgs) ▼:	-
		Eastin	g, North	ning:	33.8644148,	151.1093	507	Screen	Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drilling	g/Excavato	r Comp	any:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:	6.6		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Rig	Detail:		Ute mounted	drill rig		Con	mpletion:	Backfi	ill	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
							Grass surface. (0 to 0 mbgs)							
F		Hand Auger		он	BH05/0.2	Y	gravelly CLAY: well sorted, med plasticity (dark), Dark Brown/Grey. FILL. (0 to 0.3 mbgs)	М				Backfill	0.2	nil
	ged By:	IW			Checked By		MN							

iE	En	vi			ВН	06		Senio	or Driller Name:	Naresh Chinth i	ı alapud	Development I	Purge (L) nd notes:	-
		Pro	oject I	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/2	2022	Grou Encountere	undwater d (mbgs) ∇:	-
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/2	2022	Grou Stabilised (I	undwater mbgs) ▼:	-
		Eastin	ıg, Norti	hing:	33.8640844,	151.10839	907	Screen	Length (m):	-		Bore Diame		90 mm
	Drilling	g/Excavato	or Comp	any:	Structerre Co	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:	10.4		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Rig	Detail:		Ute mounted	drill rig		Con	npletion:	Backfil	ı	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
_	E	Hand Auger		OL	вн06/0.2	Υ	Grass surface. (0 to 0 mbgs)  gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0.1	nil
	ged By:	IW			Checked By		MN							

iE	En		-		BH 20220303		W Concord NSW, Concord HS PSI and DSI		or Driller Name:	i	alapud	Grou Encountere	indwater d (mbgs) ∇:	-
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/2	2022	Grou Stabilised (	ındwater mbgs) ▼:	-
		Eastin	ıg, Nort	hing:	33.8640844,	151.10839	907	Screen	Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drillin	g/Excavato	or Comp	any:	Structerre Cor	nsulting E	ingineers (NSW) Pty Ltd	Surface	e mAHD:	10.4		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Rig	Detail:		Ute mounted	drill rig		Con	npletion:	Backfill		Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			agram licable)	PID (ppm)	Odour
							Grass surface. (0 to 0 mbgs)							
F	F	Hand Auger		OL	BH07/0.2	Υ	gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0	nil

ÎE	En	vi			ВН	08		Senio	or Driller Name:	Naresi Chinth i	n alapud	Development F	Purge (L) nd notes:	-
		Pro	oject I	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/	2022	Grou Encountere	undwater d (mbgs) ∇:	-
			Locati	ion:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/	2022	Grou Stabilised (r	undwater mbgs) ▼:	-
		Eastin	ıg, Norti	hing:	33.864444, 15	51.109144	12	Screen	Length (m):	-		Bore Diame	ter / Well neter (m):	90 mm
	Drillin	ıg/Excavato	or Comp	any:	Structerre Cor	nsulting E	ngineers (NSW) Pty Ltd	Surface	e mAHD:	7.3		Filter Pack Gr	ain Diam (m):	-
	Drill/Ex	cavator Rig	Detail:		Ute mounted	drill rig		Con	npletion:	Backfil	ı	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			agram icable)	PID (ppm)	Odour
-	E	Hand Auger		CL	BH08/0.2	Y	Grass surface. (0 to 0 mbgs)  gravelly CLAY: well sorted, low plasticity (light), Brown or Pale Brown. FILL. (0 to 0.3 mbgs)	SM				Backfill	0	nil
	ged By:	IW			Checked By		MN							

iE	- -	Vi			ВН	09		Senio	or Driller Name:	Naresi Chinth	h alapud	Development I	Purge (L) nd notes:	-
		Pr	oject	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/	2022	Encountere		-
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/	2022	Grou Stabilised (	undwater mbgs) ▼:	-
		Eastir	ng, Nort	hing:	33.8644448,	151.10914	47	Screen	Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drilling	g/Excavate	or Com	oany:	Structerre Co	nsulting E	ngineers (NSW) Pty Ltd	Surface	e mAHD:	7.3		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Ri	g Detail		Ute mounted	drill rig		Con	npletion:	Backfi	II	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
		Hand Auger		он	вн09/0.2	Y	In planter bed. Sampled 0.2 m below geotextile fabric @ 0.3 m. (0 to 0 mbgs)  sandy CLAY: well sorted, med plasticity (dark), Dark brown and Grey. Geotextile fabric at 0.3 mbgs. FILL. (0 to 0.5 mbgs)	М				Backfill	0	nil
	ged By:	IW			Checked By		MN							

iE	En	vi			BH	10		Senio	or Driller Name:	Naresh Chinth i	n alapud	Development I	Purge (L) nd notes:	-
		Pro	oject I	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/2	2022	Grou Encountere	undwater d (mbgs) ∇:	-
			Locati	ion:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/2	2022	Grou Stabilised (I	undwater mbgs) ▼:	-
		Eastin	ıg, Norti	hing:	33.864444, 15	51.10914	12	Screen	Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drilling	g/Excavato	or Comp	any:	Structerre Cor	nsulting E	ngineers (NSW) Pty Ltd	Surface	e mAHD:	7.3		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Rig	Detail:		Ute mounted	drill rig		Con	npletion:	Backfil	ı	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
_	F	Flight Auger		он	ВН10/0.2	Υ	Grass surface. (0 to 0 mbgs)  gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs)	М				Backfill	0.1	nil
	ged By:	IW			Checked By		MN							

	Drillin	Pr	Locat ng, Nort	Ref: ion: hing:	3 Stanley 33.864444, 15	- SINS' Street, 151.109144	W Concord NSW, Concord HS PSI and DSI  Concord NSW 2137  12  Ingineers (NSW) Pty Ltd	Dat Screen Surface	or Driller Name: ate Start: e Finish: h Length (m): e mAHD:	21/06/ 21/06/ - 7.3	2022 2022	Grountere Grountere Grountere Stabilised (i Bore Diame Diam Filter Pack Gr	undwater d (mbgs) ∇: undwater mbgs) ▼: eter / Well neter (m):	90 mm
Dooth (mbgs)	Ð	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level		Vell D	viagram vlicable)	PID (ppm)	Odour
							Grass surface. (0 to 0 mbgs)							
				OL	BH11/0.2	Υ	gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (0 to 1 mbgs)	м					0.1	nil
	1 6.3	1		sw			SAND: well sorted, very loose, Yellow. Fine to medium grain FILL. (1 to 1.1 mbgs)	М	1				0	nil
E	E	Flight		OL			gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (1.1 to 1.5 mbgs)	М				Backfill	0.1	nil
	2 5.3	Auger		SM	вн11/2.5	Y	silty gravelly SAND: poorly sorted, loose, Black. FILL. (1.5 to 3 mbgs)					Bernii	0.1	nil
4	ogged By:	IW	1		Checked By		MN	L	L	ш			l	

ÌE	En	Vi			BH	<b>12</b>		Senio	or Driller Name:	Nares Chinti i	h nalapud		nd notes:	-
		Pr	oject F	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06	/2022	Encountere		-
			Locati	ion:	3 Stanley	Street,	Concord NSW 2137	Dat	te Finish:	21/06	/2022	Grou Stabilised (	undwater mbgs) ▼:	-
		Eastir	ng, Norti	hing:	33.864444, 15	51.109144	42	Screer	n Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drilling	g/Excavate	or Comp	any:	Structerre Cor	nsulting E	ingineers (NSW) Pty Ltd	Surfac	e mAHD:	7.3		Filter Pack Gr	ain Diam (m):	-
		cavator Ri	g Detail:		Ute mounted	drill rig		Cor	mpletion:	Backf	ill	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Nater Level			iagram licable)	PID (ppm)	Odour
							Compacted sand. (0 to 0 mbgs)							
1 1	6.3			он	вн12/0.2	Y	gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 1.8 mbgs)	М				Backfill	0.2	nil
2 2 	5.3			СН	BH12/2.5	Y	sandy CLAY: well sorted, high plasticity (light), Yellow. FILL. (1.8 to 3 mbgs)	VM					0.1	nil
Log	ged By:	IW		$\Box$	Checked By		MN			Ш			<u> </u>	

		vi			BH	13		Senio	or Driller Name:	Nares Chinti i	h nalapud		nd notes:	-
							W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06	/2022	Grou Encountere	undwater d (mbgs) ∇:	-
			Locati	on:	3 Stanley	Street,	Concord NSW 2137	Dat	te Finish:	21/06	/2022	Grou Stabilised (I	undwater mbgs) ▼:	-
		Eastin	ng, North	ning:	33.864444, 15	51.109144	12	Screer	Length (m):	-		Bore Diame Dian	ter / Well neter (m):	90 mm
	Drilling	g/Excavato	or Comp	any:	Structerre Cor	nsulting E	ngineers (NSW) Pty Ltd	Surfac	e mAHD:	7.3		Filter Pack Gr	ain Diam (m):	-
	Drill/Exc	cavator Rig	g Detail:		Ute mounted	drill rig		Cor	npletion:	Backf	ill	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
							Grass cover. (0 to 0 mbgs)							
	1 6.3			он	вн13/0.2	Y	gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 1.8 mbgs)	М				Backfill	0.2	nil
	5.3			CL	BH13/2.5	Υ	sandy CLAY: well sorted, low plasticity (light), White with Pale Brown Streaks. NATURAL. (1.8 to 3 mbgs)	VM					0.3	nil
Lo	gged By:	IW			Checked By		MN							

Logged By. IW Checked By MN
mbgs = metres below ground surface. Moisture Description: DND
plsclaimer: This bore log is intended for environmental and not geotechnical purposes.
This Borelog Template is under Copyright of iEnvironmental Australia Pty Ltd 2022.

iE	- -	vi			BH	14		Senio	or Driller Name:	Naresh Chintha i	alapud	Development F	Purge (L) nd notes:	-
							SW Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06/2	2022	Encountered		-
		L	∟ocati	on:	3 Stanley	Street,	Concord NSW 2137	Date	e Finish:	21/06/2	2022	Grou Stabilised (r	undwater mbgs) ▼:	-
		Eastin	g, Norti	ning:	33.864444, 15	51.10914	42	Screen	Length (m):	-		Bore Diamet Diam	ter / Well neter (m):	90 mm
	Drilling	g/Excavato	or Comp	any:	Structerre Co	nsulting E	Engineers (NSW) Pty Ltd	Surface	e mAHD:	7.3		Filter Pack Gra	ain Diam (m):	
	Drill/Exc	cavator Rig	Detail:		Ute mounted of	drill rig		Com	npletion:	Backfill		Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
							Compacted sand. (0 to 0 mbgs)							
				ОН	BH14/0.2	Υ	sandy CLAY: well sorted, med plasticity (dark), Brown. FILL. (0 to 0.1 mbgs)	М					0.1	nil
- - -				он	BH14/1.0		gravelly sandy CLAY: poorly sorted, med plasticity (dark), Dark Brown and Dark Grey. refusal at 1.0 mbgs. FILL. (0.1 to 1 mbgs)	м				Backfill	0.1	nil
				<u>'</u>										

Logged by: W Checked By MN MS with the state of the state

iE	Ξn	Vi			BH	15		Senio	or Driller Name:	Nares Chinti i	sh nalapud	Development a	Purge (L) and notes:	-
		Pr	oject	Ref:	20220303	- SINS	W Concord NSW, Concord HS PSI and DSI	Da	ate Start:	21/06	/2022	Gro Encountere	undwater ed (mbgs) ∇:	-
			Locat	ion:	3 Stanley	Street,	Concord NSW 2137		e Finish:	21/06	/2022	Stabilised (		-
		Easti	ng, Nort	hing:	33.864444, 1	51.10914	42	Screen	Length (m):	-			meter (m):	90 mm
	Drillin	ng/Excavat	or Com	pany:	Structerre Co	nsulting E	Engineers (NSW) Pty Ltd	Surface	e mAHD:	7.3		Filter Pack G	rain Diam (m):	-
		cavator Ri	g Detail	:	Ute mounted	drill rig	1	Con	npletion:	Backf	ill	Well Pipe	material:	-
Depth (mbgs)	Elevation (mAHD)	Drilling Method	Graphic Log	nscs	Samples	Analysed	Material Description	Moisture	Water Level			iagram licable)	PID (ppm)	Odour
							Grass cover. (0 to 0 mbgs)							
E				OL	BH15/0.2	Y	gravelly foreign materially CLAY: well sorted, low plasticity (dark), Dark Brown. Substantial quantities of brick and concrete fragments. FILL. (0 to 0.2 mbgs)	М					0.2	nil
- - - - - - - 1	6.3			OL	BH15/2.0	Y	gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. refusal at 2.0 mbgs. FILL. (0.2 to 2 mbgs)	М				Backfill	0.2	nil

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix E. Groundwater Sampling Sheets



20220303 - SINSW Concord NSW, Concord HS PSI and DSI

## GAUGING DATA SUMMARY

Well ID	Gauge Date	Gauge Time	Sample Date	Sample Time	Casing Diameter m	Corrected Water Level mBTOC	well	Stickup Height m	Screen length m	Sample Depth mBTOC	Top of Casing (TOC)* r11 mAHD	Water Elevation mAHD	Purging Duration	Purge Rate L/min	Total Purged litres	Temp.	Spec. Cond.1 µS/cm	рН	ORP/Eh2	DO mg/L	(gauging)	Thickness	Depth for HSLs	Comments [H odour = hydrocarbon odour; sl = slight(ly)]
MW01	28/06/2022	16:07	28/06/2022	16:40	0.100	5.339	7.293	0.860	3.000	7.193	8.9	3.521	0:45	0.0	6.9	19.1	100.6	5.2	119.8	1.7	HIGH	0.000	5.100	No odour, slightly brown
MW02	28/06/2022	16:09	28/06/2022	18:00	0.100	2.820	5.803	0.455	3.000	5.703	7.8	4.935	1:00	0.1	11.0	20.1	19.4	6.6	23.0	0.9	HIGH	0.000	3.000	No odour, slightly brown
MW03	28/06/2022	16:10	28/06/2022	19:40	0.100	1.483	4.940	-0.070	3.000	4.840	7.8	6.347	0:40	0.2	14.2	18.1	55.0	6.0	116.2	2.8	HIGH	0.000	?	No odour, slightly brown

<sup>\*</sup>Top of casing based on estimate from aerial GPS information only.





Celsius

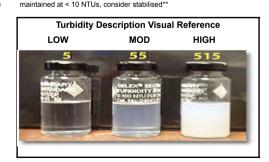
Sampling date: 15-Jul-2020

Blue cells are imported from the Gauging Sheet

PURGING	-FIELD	WATE	R QUAL	ITY ME	ASURE	MENTS	5	Confirmed [4]	Unknown/ Uncertain	Sampled by:	MN	Repair actions and notes:
Method:	Low flow, per	ristaltic pum	p		encounte	roundwater red (mBGS) og for HSLs:	5.100			Photo of well head		well casing is 0.860 m above ground surface
Bottom of well mBTOC:	7.293	Sample co	ollection depth mBTOC:	7.193	Well scree	n length (m) if known:	3.000			<b>70</b>		
					•	top of scr	een mBTOC:	4.293				Quality samples:
Project:	20220303 - S and DSI	SINSW Cond	cord NSW, Conc	ord HS PSI	Well condition:	Well has mon	ument.	Well radius (m):	0.050	17		-
Fill in all yellow	cells										•	
	Gauge date	Gauge time	Gauged by (initials)	Corrected Water Level mBTOC	LNAPL (m)	PID (ppm)	Turbidity	Comments [	i.e. slight hyd	rocarbon (H) odour	. Light brownish co	olour.]
	28/06/2022	16:07	MN	5.339	0.000	-	HIGH	No odour, slig	htly brown			
Well stickup height (m):	0.860			^Note: SWL is	s below top of	screen. Som	e draw down	is ok.				
	Water	D	Purge Rate	Total	s below top of	Spec. Cond.		is ok.  ORP/Eh2	DO	Turbidity		
height (m):		Duration	Purge Rate L/min				e draw down		DO mg/L	Turbidity  Descriptive	Comments [i.e. sl (H) odour. Light b	
height (m): Clock Time	Water Depth	<b>Duration</b> start		Total Purged	Temp.	Spec. Cond. 1 [5]		ORP/Eh2				
height (m): Clock Time 24 HR	Water Depth mBTOC		L/min	Total Purged litres	Temp.	Spec. Cond. 1 [5] µS/cm	рН	ORP/Eh2	mg/L	Descriptive	(H) odour. Light b	
height (m): Clock Time 24 HR 15:55	Water Depth mBTOC 5.340	start	L/min start	Total Purged litres	Temp. C	Spec. Cond. 1 [5] μS/cm 123	<b>pH</b> 4.75	ORP/Eh2 mv 154.2	mg/L 2.00	Descriptive HIGH	(H) odour. Light b	
height (m):  Clock Time  24 HR  15:55  16:00	Water Depth mBTOC 5.340 5.876	start 0:05:00	L/min start 0.50	Total Purged litres 0.0 2.5	Temp. C 17.4 16.5	Spec. Cond. 1 [5] μS/cm 123 106	pH 4.75 4.77	ORP/Eh2 mv 154.2 160.6	mg/L 2.00 2.32	Descriptive HIGH HIGH	(H) odour. Light b no odour, turbid no odour, turbid	
height (m):  Clock Time  24 HR  15:55  16:00  16:15	Water Depth mBTOC 5.340 5.876 6.375	start 0:05:00 0:15:00	L/min start 0.50 0.13	Total Purged litres 0.0 2.5 4.5	Temp. C 17.4 16.5 18.9	Spec. Cond. 1 [5] μS/cm 123 106 106	pH 4.75 4.77 5.12	ORP/Eh2 mv 154.2 160.6 118.7	mg/L 2.00 2.32 1.95	Descriptive HIGH HIGH HIGH	(H) odour. Light b no odour, turbid no odour, turbid no odour, turbid	
height (m):  Clock Time  24 HR  15:55  16:00  16:15  16:25	Water Depth mBTOC 5.340 5.876 6.375 6.380	start 0:05:00 0:15:00 0:10:00	L/min start 0.50 0.13 0.12	Total Purged litres 0.0 2.5 4.5 5.7	Temp. C 17.4 16.5 18.9 19.0	Spec. Cond. 1 [5] µS/cm 123 106 106 100.7	pH 4.75 4.77 5.12 5.16	0RP/Eh2 mv 154.2 160.6 118.7 119.5	mg/L 2.00 2.32 1.95 1.93	Descriptive HIGH HIGH HIGH HIGH	(H) odour. Light b no odour, turbid no odour, turbid no odour, turbid no odour, turbid	
height (m):  Clock Time  24 HR  15:55  16:00  16:15  16:25  16:30  16:40  1 x bore volume (Litres) =	Water Depth mBTOC 5.340 5.876 6.375 6.380 6.430 6.527	start 0:05:00 0:15:00 0:10:00 0:05:00 0:10:00 Drawdown = 1.187 m	L/min start 0.50 0.13 0.12 0.16	Total Purged litres 0.0 2.5 4.5 5.7 6.5 6.9	Temp. C 17.4 16.5 18.9 19.0 19.0	Spec. Cond. 1 [5] µS/cm 123 106 106 100.7 101.1	pH 4.75 4.77 5.12 5.16 5.16	0RP/Eh2 mv 154.2 160.6 118.7 119.5 120.3 119.8	mg/L 2.00 2.32 1.95 1.93 1.81 1.71 0.22	Descriptive HIGH HIGH HIGH HIGH HIGH	(H) odour. Light b no odour, turbid < 3 Readings Va	rownish colour.]

<sup>1.</sup> µSiemens per cm(same as µmhos/cm)at 25 C.

7.1



<sup>2.</sup> Oxidation reduction potential (stand in for Eh).

<sup>\*</sup> The ± 0.1 may not always be obtainable, especially if purging and sampling with bailers. Therefore, professional judgement may be needed.

<sup>\*\*</sup>Visual inspection may be used to validate turbidity, and professional judgement may be needed to indicate if turbidity is clear or stable





Celsius

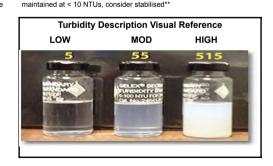
Sampling date: 15-Jul-2020

Blue cells are imported from the Gauging Sheet

		<u> </u>	•									
PURGING	-FIELD	WATE	R QUAL	ITY ME	ASURE	MENTS	5	Confirmed [7]	Unknown/ Uncertain	Sampled by:	MN	Repair actions and notes:
Method:	Low flow, per	ristaltic pum	р		encounte	roundwater red (mBGS) og for HSLs:	3.000			Photo of well head	Photo of water	well casing is 0.455 m above gs
Bottom of well mBTOC:	5.803	Sample co	llection depth mBTOC:	5.703	Well scree	n length (m) if known:	3.000					
						top of scr	een mBTOC:	2.803		-3-6	State of the state	Quality samples:
Project:	20220303 - S and DSI	SINSW Cond	cord NSW, Conc	ord HS PSI	Well condition:	Well has mon	ument.	Well radius (m):	0.050			QW01
Fill in all yellow	cells										•	•
	Gauge date	Gauge time	Gauged by (initials)	Corrected Water Level mBTOC	LNAPL (m)	PID (ppm)	Turbidity	Comments [	.e. slight hyd	rocarbon (H) odour.	. Light brownish co	olour.]
	28/06/2022	16:09	MN	2.820	0.000	-	HIGH	No odour, slig	htly brown			
Well stickup height (m):	0.455		-	^Note: SWL is	s below top of	f screen. Som	e draw down	is ok.				
	Water	<b>5</b> .:	Purge Rate	Total	s below top of	Spec. Cond.		is ok. ORP/Eh2	DO	Turbidity		
height (m):		Duration			,		e draw down		DO mg/L	Turbidity  Descriptive	Comments [i.e. sli (H) odour. Light bi	
height (m): Clock Time	Water Depth	<b>Duration</b> start	Purge Rate	Total Purged	Temp.	Spec. Cond.		ORP/Eh2		,		
height (m): Clock Time 24 HR	Water Depth mBTOC		Purge Rate	Total Purged litres	Temp.	Spec. Cond. 1 µS/cm	рН	ORP/Eh2	mg/L	Descriptive	(H) odour. Light b	
height (m): Clock Time 24 HR 17:00	Water Depth mBTOC 2.824	start	Purge Rate L/min start	Total Purged litres	<b>Temp. C</b> 19.6	Spec. Cond. 1 µS/cm	<b>pH</b> 6.53	ORP/Eh2 mv 41.4	<b>mg/L</b> 1.29	Descriptive HIGH	(H) odour. Light be	
height (m):  Clock Time  24 HR  17:00  17:10	Water Depth mBTOC 2.824 2.850	start 0:10:00	Purge Rate L/min start 0.30	Total Purged litres 0.0 3.0	Temp. C 19.6 20.4	Spec. Cond.  1  μS/cm  23  21	pH 6.53 6.58	ORP/Eh2 mv 41.4 34.9	mg/L 1.29 0.77	Descriptive HIGH HIGH	no odour, turbid	
height (m):  Clock Time  24 HR  17:00  17:10  17:20	Water Depth mBTOC 2.824 2.850 2.882	start 0:10:00 0:10:00	Purge Rate L/min start 0.30 0.20	Total Purged litres 0.0 3.0 5.0	Temp. C 19.6 20.4 20.3	Spec. Cond. 1 μS/cm 23 21 20	pH 6.53 6.58 6.59	0RP/Eh2 mv 41.4 34.9 30.2	mg/L 1.29 0.77 0.82	Descriptive HIGH HIGH HIGH	(H) odour. Light be no odour, turbid no odour, turbid no odour, turbid	
height (m):  Clock Time  24 HR  17:00  17:10  17:20  17:30	Water Depth mBTOC 2.824 2.850 2.882 2.895	start 0:10:00 0:10:00 0:10:00	Purge Rate L/min start 0.30 0.20 0.20	Total Purged litres 0.0 3.0 5.0 7.0	Temp. c 19.6 20.4 20.3 20.1	Spec. Cond.  1  µS/cm  23  21  20  19.7	pH 6.53 6.58 6.59 6.60	0RP/Eh2 mv 41.4 34.9 30.2 27.8	mg/L 1.29 0.77 0.82 0.88	Descriptive HIGH HIGH HIGH HIGH	(H) odour. Light by no odour, turbid no odour, turbid no odour, turbid no odour, turbid	
height (m):  Clock Time  24 HR  17:00  17:10  17:20  17:30  17:40  18:00  1 x bore volume (Litres) =	Water Depth mBTOC 2.824 2.850 2.882 2.895 2.903 2.904 33.7	start 0:10:00 0:10:00 0:10:00 0:10:00 0:10:00 0:20:00 Drawdown	Purge Rate	Total Purged litres 0.0 3.0 5.0 7.0 9 11 11.0	Temp. C 19.6 20.4 20.3 20.1 20.1	Spec. Cond.  1 μS/cm  23  21  20  19.7  19.6	pH 6.53 6.58 6.59 6.60 6.60	ORP/Eh2 mv 41.4 34.9 30.2 27.8 25.6 23.0 4.8	mg/L 1.29 0.77 0.82 0.88 0.90 0.92	Descriptive HIGH HIGH HIGH HIGH HIGH	(H) odour. Light by no odour, turbid	rownish colour.]

<sup>1.</sup> µSiemens per cm(same as µmhos/cm)at 25 C.

7.1



<sup>2.</sup> Oxidation reduction potential (stand in for Eh).

<sup>\*</sup> The ± 0.1 may not always be obtainable, especially if purging and sampling with bailers. Therefore, professional judgement may be needed.

<sup>\*\*</sup>Visual inspection may be used to validate turbidity, and professional judgement may be needed to indicate if turbidity is clear or stable





Celsius

Sampling date: 15-Jul-2020

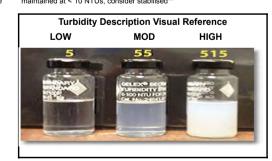
Blue cells are imported from the Gauging Sheet

			<b></b>									
PURGING	-FIELD	WATE	R QUAL	ITY ME	ASURE	MENTS	5	Confirmed [9]	Unknown/ Uncertain	Sampled by:	MN	Repair actions and notes:
Method:	Low flow, per	ristaltic pum	p		encounte	roundwater red (mBGS) og for HSLs:	2.000			Photo of well head	Photo of water	well casing is 0.070 m bgs
Bottom of well mBTOC:	4.940	Sample co	ollection depth mBTOC:	4.840	Well scree	n length (m) if known:	3.000			6		
						top of scr	een mBTOC:	1.940				Quality samples:
Project:	20220303 - 8 and DSI	SINSW Con	cord NSW, Conc	ord HS PSI	Well condition:	<b>O</b>	and hard to	Well radius (m):	0.050			-
Fill in all yellow	cells											_
	Gauge date	Gauge time	Gauged by (initials)	Corrected Water Level mBTOC	LNAPL (m)	PID (ppm)	Turbidity	Comments [i	i.e. slight hyd	rocarbon (H) odour.	Light brownish co	olour.]
	28/06/2022	16:10	MN	1.483	0.000	-	HIGH	No odour, slig	ghtly brown			
Well stickup height (m):	-0.070			^Note: SWL a	bove top of s	creen - carefu	l of drawn do	wn (max 0.5 m	n) and LNAPL	assumptions.		
Clock Time	Water Depth	Duration	Purge Rate	Total Purged	Temp.	Spec. Cond.	Hq	ORP/Eh2	DO	Turbidity	Commonto II o ol	in ht hooden and han
24 HR	mBTOC		L/min	litres	С	μS/cm		mv	mg/L	Descriptive	Comments [i.e. sl (H) odour. Light b	
19:00	1.480	start	start	0.0	22.6	611	6.80	100.1	0.84	HIGH	no odour, turbid	
19:10	2.109	0:10:00	0.20	2.0	18.4	60	6.86	109.3	3.64	MOD	no odour, getting cl	earer
19:20	2.225	0:10:00	0.40	6.0	18.3	56	6.03	115.1	3.02	MOD	no odour, getting cl	earer
19:30	2.310	0:10:00	0.60	12.0	18.1	55	5.97	116.3	2.84	MOD	no odour, getting cl	earer
19:40	2.312	0:10:00	0.22	14.2	18.1	55	5.96	116.2	2.82	MOD	no odour, getting cl	earer
1 x bore volume (Litres) =	39.1	Drawdown = 0.832 m	Total Purged (Litres) =	14.2	0.2	1.8%	0.07	1.2	0.20	STABLE!	< 3 Readings Va	riance
Stabili	isation Criteria for	r 3 consecutive	readings: (Yeskis a	nd Zavala, 2002):	± 0.5 O	± 3%	± 0.1 standard	± 10 millivolts	± 0.3 milligrams	± 10% (when > 10 NTUs)		

<sup>1.</sup> µSiemens per cm(same as µmhos/cm)at 25 C.

<sup>\*\*</sup>Visual inspection may be used to validate turbidity, and professional judgement may be needed to indicate if turbidity is clear or stable

22-2-22
7.1



<sup>2.</sup> Oxidation reduction potential (stand in for Eh).

<sup>\*</sup> The ± 0.1 may not always be obtainable, especially if purging and sampling with bailers. Therefore, professional judgement may be needed.

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



## Appendix F. NSW EPA Reporting Checklist

The following is a copy from the reporting stage checklist (Section 2.2, NSW EPA 2020).

Report section	Requirement	Included	Where addressed in Report/Comment
Document control	Date, version number, author and reviewer (including certification	Y	Document Record
	details) and who commissioned the report		
Executive summary	Background	Y	1 Executive Summary
	Objectives of the investigation  Scope of work	Y Y	1 Executive Summary 1 Executive Summary
	Where appropriate, a summary of key findings, observations and	Y	1 Executive Summary
	sampling results (if available)		
Objectives	Summary of conclusions and recommendations  The objectives of the investigation/report and the broader objectives for	Y	1 Executive Summary 2.1 Objectives
	the site/investigation		
Scope of work	Scope of work performed (work not undertaken where relevant)	Y	2.3 Scope of Work 4.1 Site Identification
Site identification	Site identification and detail items from asc nepm field checklist 'site information' sheet.	Ť	Figure 1 Site Location
Site history	Site history items from asc nepm field checklist 'site information' sheet.  A summary is enough if detailed information was included in an available	Υ	5 Site Hsitory and Background
	referenced previous report.		Background
Site condition and surrounding environment	Site condition and surrounding environment items from asc nepm field checklist 'site information' sheet. A summary is enough if detailed	Υ	4.3 Surrounding Land Use and Water Bodies
	information was included in an available referenced previous report, to		4.4 Surface Water, Drainage
	be updated with site-specific information.		and Flood Potential 4.5 Site Regional Geology as
			Hydrogeology
Sampling and analysis quality plan and sampling methodology	See table 2.2 and note and explain the rationale for any deviations from the plan	Υ	9 Sampling, Analysis and Quality Plan (SAQP)
Results	Summary of previous results, if applicable	Υ	5 Site History and
	A table(c) of analytical results that:		Background
	A table(s) of analytical results that:  Shows all essential details such as sample identification numbers and	Y	7 Sampling, Analysis and
	sampling depth		Quality Plan (SAQP)
			Appendix D Soil Borelogs Appednix E Groundwater
			Sampling Sheets
	Shows assessment criteria	Υ	6 Contamination Assessmen
	Usebisha all analis and an adian and a sistematic for a track the		Criteria
	Highlights all results exceeding any assessment criteria (not just the highest)	Υ	8 Site Investigation Results, Conceptual Design Model
			(CSM) Attachments: Analytical
			Tables
	Includes a summary/discussion of the analytical results	Υ	8 Site Investigation Results and Discussion
	Includes sample descriptions for all media where applicable (e.G. Soil,	Υ	8 Site Investigation Results
	sediment, surface water, groundwater, biota)		and Discussion Appendix D Soil Borelogs
			Appendix E Groundwater
	Includes test pit or bore logs (well construction details where	Υ	Sampling Sheets  Appendix D Soil Borelogs
	appropriate for example groundwater level expressed in australian	'	Appendix E Groundwater
	height datum) Includes site plan showing all sample locations	Υ	Sampling Sheets Figure 4 Sample Layout Plan
	Includes site plan(s) showing the extent of soil and groundwater	Y	Figure 5 Sample
	contamination exceeding selected assessment criteria for each sampling depth, including identification numbers and depths of all samples		Concentration Tier 1 Risk Exceedances
	analysed		Exceedances
	Follows appropriate statistical procedures when comparing site data with the investigation and screening levels. Refer to asc nepm schedule	Υ	8.2 Site Investigation Result Conceptual Site Model (CSN
	b1 sections 2, 3 and 4		and Results Discussion
	Refer to asc nepm schedule b2 sections 13 and 14 for information	Y	Attachment: Analytical Table As above
	regarding the data presentation		75 0000
Quality assurance/quality control data evaluation	See table 2(c)	Υ	8.3 Quality Results Summar
Conceptual site model	See table 2(a)	Υ	8.2 Site Investigation Results Conceptual Site Model (CSN
			and Results Discussion
Site characterisation	Assessment of extent of contamination considering all relevant media, including offsite areas	Υ	8 Site Investigation Results and Discussion
	Assessment of aesthetic issues	Υ	8 Site Investigation Results
	Assessment of secondary to visits / if conducting an exploring side	Y	and Discussion
	Assessment of secondary toxicity (if conducting an ecological risk assessment)	Y	8 Site Investigation Results and Discussion
	Assessment of potential effects of contaminants on human health, and	Υ	8 Site Investigation Results
	built structures (for example arising from risks to service lines from hydrocarbons in groundwater, or risks to concrete from acid sulphate		and Discussion
	soils)		O Cita Investigation Describe
	Assessment of chemical degradation products	Y	8 Site Investigation Results and Discussion
	Assessment of possible exposure routes and exposed populations	Υ	8 Site Investigation Results
	(human, ecological)  Any evidence of, or potential for, migration of contaminants from the	Y	and Discussion  8 Site Investigation Results
	site, including odour, air quality, stormwater, sedimentation, soil vapour,		and Discussion
Waste management	ground gases and groundwater issues  Waste classification details in accordance with epa waste classification	Y	8.5 Waste Spoil
	guidelines (see waste classification checklist – table 2(d)	<u> </u>	o.o .vuote opoii
re	Statements regarding materials being disposed via appropriately licensed	Υ	8.5 Waste Spoil
(if applicable)			
if applicable)	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed	N	N/A
if applicable)	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste		
if applicable)	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed	N N	N/A N/A
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for		N/A  8.2 Site Investigation Result:
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements	N	N/A  8.2 Site Investigation Result
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements	N	N/A  8.2 Site Investigation Result Conceptual Site Model (CSN
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings	N Y	N/A  8.2 Site Investigation Result: Conceptual Site Model (CSM and Results Discussion  10.1 Conclusions  8.2 Site Investigation Result:
(if applicable)  Conclusions and recommendations	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives	N Y	N/A  8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion  10.1 Conclusions  8.2 Site Investigation Result
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives  Assumptions used in reaching the conclusions	N Y Y Y	N/A  8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion  10.1 Conclusions  8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion  10.1 Conclusions
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives	N Y	N/A  8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion  10.1 Conclusions  8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion  10.1 Conclusions
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives  Assumptions used in reaching the conclusions  Extent of uncertainties in the results  A clear-cut statement that the consultant considers the site to be	N Y Y Y	8.2 Site Investigation Result: Conceptual Site Model (CSM and Results Discussion 10.1 Conclusions 8.2 Site Investigation Result: Conceptual Site Model (CSM and Results Discussion 10.1 Conclusions 8.3 Quality Results Summar
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives  Assumptions used in reaching the conclusions  Extent of uncertainties in the results	N Y Y Y	8.2 Site Investigation Result: Conceptual Site Model (CSM and Results Discussion  10.1 Conclusions  8.2 Site Investigation Result: Conceptual Site Model (CSM and Results Discussion  10.1 Conclusions  8.3 Quality Results Summar  8.4 Data Gaps
	facility or re-used under an order or exemption  Waste disposal dockets or other waste documentation for any disposed waste  Refer to the site auditor guidelines section 4.3.7 waste management for waste management requirements  Summary of all findings  Conclusions addressing the stated objectives  Assumptions used in reaching the conclusions  Extent of uncertainties in the results  A clear-cut statement that the consultant considers the site to be suitable for the proposed use	N Y Y Y	8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion 10.1 Conclusions 8.2 Site Investigation Result Conceptual Site Model (CSN and Results Discussion 10.1 Conclusions 8.3 Quality Results Summar 8.4 Data Gaps

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



## Appendix G. Duty to Report Checklist

Site address:

### **Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997**

3 Stanley Street, Concord NSW 2137 EPA 2015/0164 July 2015 nental Australia Pty Ltd - Duty to Report Questionairre # Question Answer Action Notes 1.3 NSW contaminated land management framework Is the contamination currently being dealt with through a Development Approval process, under the NSW Planning and Development Framwork (such as through State Environmental Planning Policy No. 55 – Remediation of Land and Managing Land Contamination – Planning Guidelines.) Note this may change as part of the development moving forv PROCEED TO QUESTION 1A ns not intended to be captured by the duty to report - Your site / contamination may be exempt from the Duty to Report If any of the situations below relate to your contamination issues (and no other issues that need to be reported) you may have no Duty to Report contamination under the CLMAct. (If 1A Insure, complete the Questionairre Below from Question 3 Onwards.)
videspread diffuse urban pollution that is not attributed to a specific industrial,
commercial or agricultural activity sites without off-site contamination where PFAS, hydrocarbons, metals, ammonia/nutrients, hexavalent chromium may have been sourced at the site and are likely to n-site contamination is not likely to migrate to a neighbouring property, and N have migrated offsite. Need to be verified with resampling. any on-site contamination has been assessed and the site found to be suitable for the proposed use in accordance with the requirements under the Environmental Planning and Assessment Act 1979 NO DUTY TO REPORT TRIGGERED. THERE IS NO ites with contaminants that are at levels above the triggers but are equal to, or OR pelow, the ambient background concentration sites with non-friable asbestos materials (fibro) in or on soils, or naturally NEED TO PROCEED FURTHER. ccurring asbestos incidents of illegal dumping tockpiles of waste that are subject to the POEO Act OR sites that have already been notified to the EPA under the CLM Act, where there N OR has been no change in circumstances since the previous notification sites subject to a declaration, order or proposal under Part 3 of the CLM Act sites formerly subject to a declaration under Part 3 of the CLM Act but where no OR otentially contaminating activities have since been carried out 2.1 Duty to report nder section 60 of the Contaminated Land Management Act 1997 (CLM Act) the following people are required to notify the EPA as soon as practical after they become aware of the contamination: anyone whose activities have contaminated land an owner of land that has been contaminated. Answer Yes or No to the following: (If unsure, leave Question 2 Blank and complete the Questionairre below from Question 3 Onwards.)

the level of the contaminant in, or on, soil is equal to or above a level of contamination set out in Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013) or other approved guideline value with respect to a current or approved use of the land, and people have been, or foreseeably will be, exposed to the contaminant;

the contamination meets a criterion prescribed by the regulations;

TRIGGERED! TRIGGERED! the contaminant or a by-product has entered, or will foreseeably enter, neighbouring land, the atmosphere, groundwater or surface water, and is above, or will foreseeably be above, a level of contamination set out in National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013) or other approved guidelines and will foreseeably continue to remain equal to or above that level. 2.3.1 On-site soil contamination 3 For the purposes of section 60(3)(b) of the CLM Act, notification of contamination in, or on, soil on the land is required where (Answer Yes or No to the following): For the purposes of section 60(3)(b) of the CLM Act, notification of contamination the 95 % upper confidence limit on the arithmetic average concentration of a contaminan in or on soil is equal to or above the Health Investigation Level and/or Health Screening Level for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013); the concentration of a contaminant in an individual soil sample is equal to or more than 250% of the Health Investigation Level and/or Health Screening Level for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013)

a person has been or foreseeably will be exposed to the contaminant or a by-product of the contaminant. PROCEED TO QUESTION 4 -NO DUTY TO REPORT TRIGGERED 2.3.2 Off-site soil contamination For the purposes of section 60(3)(a) of the CLM Act, notification of contamination in, or on, soil on neighbouring land is required where: 4 ne 95% upper confidence limit on the arithmetic average concentration of a contaminant n or on soil is above the health investigation level and/or health screening level for that ontaminant for the current or approved use of the respective off-site land, as specified Section 6, Schedule B1 of the National Environment Protection (Assessment of Site n Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013)
he 95% upper confidence limit on the arithmetic average concentration of a contaminant n or on soil is above the health investigation level and/or health screening level for that contaminant for the current or approved use of the respective off-site land, as specified n Section 6, Schedule B1 of the National Environment Protection (Assessment of Site MISSING DATA ontamination) Measure 1999 (NEPC 2013) ne concentration of the contaminant in or on the soil on the neighbouring land will foreseeably continue to remain above the specified concentration. seeable contamination of neighbouring land 5 For the purposes of section 60(3)(a) of the CLM Act, notification of foreseeable contamination of neighbouring land is required where: ne contaminant will foreseeably enter neighbouring land he concentration of the contaminant on the neighbouring land will foreseeably be above he health investigation level and/or health screening level for that contaminant for the urrent or approved use of the respective off-site land, as specified in Section 6, schedule B1 of the National Environment Protection (Assessment of Site Contamination for the Contamination of the Contamination for the C PROCEED TO QUESTION 6 NO DUTY TO REPORT leasure 1999 (NEPC 2013) ne concentration of the cor the concentration of the contaminant on the toremain above the specified concentration bestos in, or on, soil 6 For the purposes of section 60(3)(b) of the CLM Act, notification of asbestos contamination is required where: iable asbestos is present in or on soil on the land mall fragment only detected. Bonded asbestos also noted in Friable asbestos is usually in the form of loose asbestos that is not bound together. The most common forms of friable asbestos are thermal lagging used on steampipes and boilers, as fire protection, ceiling insulation and the like, and raw asbestos waste from asbestos products manufacturing. Friable asbestos can usually be broken up or crumbled using hand pressure to generate free fibres. If disturbed, friable asbestos has the potential to generate significant quantities of airborne fibres and because of this PROCEED TO QUESTION 7 NO DUTY TO REPORT Asbestos in certain buildings as noted in the register TRIGGERED (Appendix J) equires a high level of control.

person has been, or foreseeably will be, exposed to elevated levels of asbestos fibres AND Jnlikely by breathing them into their lungs ndwater or surface water For the purposes of section 60(3)(a) of the CLM Act, notification of actual or foreseeable contamination of groundwater or surface water on the site is required where: he contaminant has entered or will foreseeably enter groundwater or surface water the concentration of the contaminant in the groundwater or surface water is, or will oreseeably be, above the groundwater investigation level for that contaminant as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment The results need to be verified by resampling, checking of **DUTY TO REPORT IS** TRIGGERED! of Site Contamination) Measure 1999 (NEPC 2013) the concentration of the contaminant in the groundwate foreseeably continue to remain above the specified con 2.3.6 Vapour intrusion In the case of risks associated with the vapour inhalation pathway (also known as vapour intrusion), notification of actual or foreseeable contamination is required for the purposes of In the case of risks associated with the vapour inhalation pathway (also known a sections 60(3)(a) and (b) of the CLM Act where: the concentration of a contaminant in an individual soil vapour sample from the land is equal to or above the interim soil vapour health investigation level for volatile organic chlorinated compounds for the current or approved use of the respective on-site or off-site land as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013) the concentration of a contamination in an individual soil vapour sample from the land is equal to or above the soil health screening level for vapour intrusion for the current or approved use of the respective on-site or off-site land as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013) 8 NO DUTY TO REPORT TRIGGERED IN THIS SECTION - PROCEED the concentration of a contaminant in a groundwater sample from a site is equal to or above the groundwater health screening level for vapour intrusion for the current or approved use of the respective on-site or off-site land as specified in Section 6, Schedu 31 of the National Environment Protection (Assessment of Site Contamination) Measur **END OF SURVEY** or foreseeably will be exposed to the contaminant or any by-pr 2.8 Failure to report person who is required to report contamination to the EPA but fails to do so may be subject to prosecution. If they are convicted, the DLM Act currently provides for a maximum penalty of:
\$100,000 with a further penalty of \$77,000 for each day the offence continues, in the case of a corporation, or \$250,000 with a further penalty of \$33,000 for each day the offence continues, in the case of an i **SURVEY OUTCOME** Section of Duty to Report Guidelines Outcome 1.3 NSW contaminated land management framework 1A 2.5 Situations not intended to be captured by the duty to report RED. THERE IS NO NEED TO PROCEED FURTH 2.1 Duty to report CEED TO QUESTION 4 - NO DUTY TO REPORT TRIG 2.3.1 On-site soil contamination 2.3.2 Off-site soil contamination 2.3.3 Foreseeable contamination of neighbouring land 6 2.3.4 Asbestos in, or on, soil 2.3.5 Groundwater or surface water 8 2.3.6 Vapour intrusion https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/clm/contamform.doc

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix H. Calibration Certificates

Instrument

**PhoCheck Tiger** 

Serial No.

T-119096



### Air-Met Scientific Pty Ltd 1300 137 067

Item	Test	Pass	11/11/11		Comments	
Battery	Charge Condition	1			Comments	
-	Fuses	1	1		11 10 10	
11	Capacity	1				
Andrew Street	Recharge OK?	1				
Switch/keypad	Operation	1			-	
Display	Intensity	1				
17.7	Operation	1				
	(segments)					
Grill Filter	Condition	<b>✓</b>				
	Seal	1				
Pump	Operation	1				
	Filter	1				
	Flow	1				
	Valves, Diaphragm	1				
PCB	Condition	1				
Connectors	Condition	1				
Sensor	PID	1	10.6 ev			
Alarms	Beeper	/	Low	High	TWA	STEL
	Settings	1	50ppm	100ppm	10ppm	25ppm
Software	Version	1		1,2000,111	1.000111	Leabhin
Data logger	Operation	V	-			
Download	Operation	1				
Other tests:						

### Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode

Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle	Instrument Reading
PID Lamp		93ppm Isobutylene		SY361	93.1 ppm Isobutylene

Calibrated by:

**Gary Needs** 

Calibration date:

16-Jun-22

Next calibration due:

16-Jul-22

## Multi Parameter Water Meter

Instrument

YSI Quatro Pro Plus

Serial No.

18J104314



Air-Met Scientific Pty Ltd 1300 137 067

Item	Test	Pass	0
Battery	Charge Condition	V 7 455	Comments
	Fuses	-	
	Capacity	./	
	Jan Spanny	- *	
Switch/keypad	Operation	~	
Display	Intensity	·	
	Operation	,	
	(segments)	PS:	
Grill Filter	Condition	V	
	Seal		
PCB	Condition	_	
Connectors	Condition	·	
Sensor	1. pH		
	2. mV	/	
	3. EC	/	
	4. D.O	<i>'</i>	
	5. Temp	1	
Alarms	Beeper		
	Settings		
oftware	Version		
ata logger	Operation		
ownload	Operation	1	
ther tests:		+ + +	

## Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

1. pH 7.00	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
2. pH 4.00		pH 7.00		377339	pH 7.02
3. mV		pH 4.00	r	380327	pH 4.00
4. EC		237.8mV		380834/387761	237.7mV
5. D.O		2.76mS		385047	2.76mS
6. Temp		0%		371864	0.00%
		21.0°C		MultiTherm	20.5°C

Calibrated by:	
cambrated by.	Adam Nikolic

Calibration date: 2/06/20

2/06/2022

Next calibration due:

3/07/2022

Instrument Interface

Interface Meter (30M)

Serial No. 313359



ltem	Test	Pass	Comments
Battery	Compartment	√ ×	
		<b>√</b>	
	Capacity	v	
Probe	01	- 5	
. 1000	Cleaned/Decon	<b>√</b>	
	Operation	✓	
Connectors	Condition	✓	
	Condition	<b>V</b>	
Tape Check	Cleaned	<b>✓</b>	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	
	1.5.		
	1.0.		

### Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: Adam Nikolic

Calibration date: 26/05/2022

Next calibration due: 25/07/2022

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



## Appendix I. Laboratory Analytical Certificates

(OC 10f2

RECOF			6	Sydney Laboratory Unit F3 Bid.F 16 Mars Road Lane Cove West NSW 2056			Brisbane Laboratory Unit 1 21 Smallwood Place Murarrie OLD 4172							in oratory 291 Leach I	Highway	7/7 5	New Laboriesian Ci,	rcastle oratory		Melbourne Leboratory											
	nent Testing ABN 50		T.	02	9900 8400 11	EnviroSe	mpleNSW/	@eurofins	Ŀ.	07.39	902 4600 EnviroSempleQLD@eurofins					Kewd	iale WA 610 51 9500 F	15			_	o momeray road Dandenong South VIC 3175									
Company		ital Australia Pty Ltd	Project Num!	ber	202	220303	1			com	P.M			tyn Nu			7 3000	THY HOSSIII	-	_					03 85	64 5000	EnviroSer	ne@c@eu	rofins.com		
Address	SYDNEY Level 13 465	Victoria Avenue	Project Name	е	Con	cord NS1	V, Conco	rd HS P	SI and Di	SI	EDI						-	_	Sar	npler(s	s)		I-hu	ıi Wauı	ng						
	Chatswood I	NSW 2067					3			1	For	nat	ESC	at and	csv	_	-		Har	nded o	ver by	,	I-hu	i Waur	ng						
Contact	I-hui Wauni	n	-	tion	% Clay	90		6:2	10		2						9		Em.	ail for l	Invoic	е	bills	@ienv	i.com.a	u. I Ai	RRESU	LTS@i	nmi ee	m 011	
Name			Analyses Where metals	al e	- % %	Is, Metals		So	(PCB)		a e								Ema	ail for l	Result	ts.									
Phone №	0457 304 8		are requested	i i	CaCl2) / TOC / % Clay leation in Soil - NEPM	S	Ę	rt Sulte : PFOA, PFOS,	(a)		and 2-Propanone	5				-	W_	24							டாபகு	erivi.c	om.au,	rnui.wa	aung@	ienvi.con	
Special Directions	PLS FWD	QS01A to ALS!!	please specify "Total" or	y မြို့	(S) 12	Phenols	5 E	S S	Biphenyls		42 P	Chlorinated 6 (Semi-Vol		730			Sol			7	-	Con	tainer:	s	-	+	Red	uired 1	Turnar	ound Tin	
			"Filtered". SUITE code	So	Sat Sac	0.0	Chromium	d	흪	0	E .	irina In		M			Late	_3							7- 1					rting by 9a	
P.O.#		20220303	must be used		회	PAH	ē	15	8 8	-	(MEK)	15 S					200	X		1					100	1	1	Same d	lay	1 day	
Quote ID	220610IEA			<b>•</b>	_   0 =	TRH, BTEXN, PA	1 E	T S	Polychlorinated	Cyanide (Total)	8	Semi-Volatile (Hydrocarbons			1	gen	SPOCAS / Acid Sulfate Assessment	TRHC6-C10,BTEXN	1	1		1		1	1 - 1			2 days	1	3 days	
	200	Sampled		N S	Sto C	8	를	Short	Plo P	de (	anor (eux	Vola	90	9	i E	itro	S. V.	र्दे र			1	200m			Jar		H	Other:	+	_	
N≘	Client Sample ID	Date/Time dd/mm/yy hh:	Matrix Solid (S) Water (W)	NEPM	Spe	F	Hexavalent	PFAS	8	yan	2-Butanone (Acetone)	im or	Chloride	Sulphide	Ammonia	Total Nitrogen	0C/	HC6	500m	L	L	L Ambe	40ml	500m	(Glas			Sample			
1	BH01/0.2		S	1	_	1	1	1	1	1	1					_	SP	F	Plasti	Plasti	Plasti	F Glass	VOA	PFAS Bottle	HOPE	Bags	/ Dai	ngerou		ds Hazar	
2	BH02/0.2	BU O. A. PARK	5	1		1	1	1	1	1	1	1	1	1	1	1									1	1			- Triming		
3	BH03/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1			100			- 1	PS		1	1	Please	IIIOA CO	\C ~~~~	ole names	
5	BH04/0.2 BH05/0.2		. 5	1		1	1	1	1	1	1	1	1	1	1	1					-				1	1	where	they diff	er er	vie names	
6	BH06/0.2		S	1	_	1	1	1	1	1	1	1	1	1	1	1				100	20		25.5		1	1		-11			
7	BH07/0.2	- 0	S	1	1	1	1	1	1	1	1	1	1	1	1	1	BE SI	5.73	(0.3	100			200		1	1		_			
8	BH08/0.2	THE PARTY NAMED IN	5	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1					
9	BH09/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1				100	ER	200		1	1	1	NF S	27.75	-	200	
10	BH10/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1			-		
11	BH11/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1			VA	MA					1	1	E	03	DE L	200	
12	BH11/2.5		5			1	1	FS		1		1	1	1	1	1		_							1	1					
13	BH12/0.2 BH12/2.5		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-				9.0		1				5		
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16	BH13/2.5	10000000	S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1							1	-	V				
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Contact Name	I-hui Waung		Analyses Where metals	mina 1.7%	1 =	Meta		os, i	CB CB		рапо	6				43			Ema	il for F	Results	5	LABI	RESUI	TS@i	envi.c	com.a	u, i-hui.wa	ung@ienvi	i.com.au
Phone №	0457 304 854		are requested,	草の	Soil	S. T.		d.	8 0	E	5	풍		3.43	1	133	=					Conf	ainers				ь	aguired T	urnaround	d Time
Special Directions	PLS FWD QS	01A to ALS!!	please specify "Total" or "Filtered". SUITE code	Screen for Soil Contamination CEC / pH(CaCl2) / TOC / % Clay	Asbestos Identification in & WA Guidelines	TRH, BTEXN, PAH, Phenois, Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Hexavalent Chromium	PFAS Short Suite : PFOA, PFOS, 6:2 FTSA, 8:2 FTSA	Polychlorinated Biphenyls (PCB)		2-Butanone (MEK) and 2-Propanone (Acetone)	Semi-Volatile Chlorinated Hydrocarbons (Semi- Vol CHC)					Sulfate Soil	NXC	F								-		ght reporting lay	
P.O. #		20220303	must be used to attract	ner /	de de	N.O.	ភ	L Su	ate	otal)	3	la C			1	5	P C	E,		1		1					1			3 days
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N≘	Client Sample ID	Sampled Date/Time dd/mm/yy hh:	Matrix Solid (S) Water (W)	NEPM %	Asbest & WA G	TRH, B	Нехаvа	PFAS S	Polychi	Cyanide (Total)	2-Butan	Semi-Ve	Chloride	Sulphide	Ammonia	Total Nitrogen	SPOCAS / Acid	TRHC6-C10,BTEXN	500m L Plasti		i. Piasti	Ambe r	40mL VOA vial	500m L PFAS	s or HDPE		_	Dangerou	e Commer s Goods I	
17	BH14/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	C	c	C	Glass	Viai	Bottle	1	Bag 2	_	V	/arning	
18	BH14/1.0		5	163		1	1	1		1	ET	1					100								1	-			TO ALL	-
19	MW15/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1	-	name MW1	E to MMO2	
20	MW15/4.5		S	953		1	1			1	2.55	1	15-9	100		11/10	100	CN		100	1000			154	1	-		name MW1		-
21	MW01/0.2		5	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1	_	ACITIC INTO A	J (0 (41470)	
22	MW01/1.5		S	DE 3	1,0	1993	1			1			1	100			113			100		5-11			1	1	_	7	1000	
23	MW01/4.5		S			1	1	1	1	1	1	1	1	1	1	1									2	1	-			_
24	MW02/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6 3		100			101-1		1	2	_	-15	7	
25	MW02/4.5		S			1	1	1	1	1	1	1	1	1	1	1									1	-	-	-		
26	MW03/0.2		S	1	1	1	1	1	1	1	1	1	1	-1	1	1	1	9-10	1993	120	ALC: U	0.53			1	2	Re	name MW	03 to BH15	5
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28	QS01		\$	10.73		1	1	1	1	1	17.5	1		13		1					6 -3	100			1		-		DO CO BITTIC	
29	QS01A		S			1	1	1	1	1		1										-			1		PL	S FWD Q	S01A to AL	SII
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33	WC3		S			1																			1	1	1		enol, presence	
34	TB01		W						1					1		12	8-3	1		- 4		9-1	GL 10	1	3				e TB as TB0	10 TO
35	TB02		W								2							1									-	10 2	cond TB as	_
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www.eurofins.com.au

EnviroSales@eurofins.com

Penrose,

#### **Eurofins Environment Testing Australia Pty Ltd**

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 Geelong 19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000

**Sydney** 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

Canberra Mitchell ACT 2911

Brisbane Unit 1.2 Dacre Street 1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 2 6113 8091 Tel: +61 7 3902 4600

Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 NATA# 1261 Site# 20794 NATA# 1261 Site# 25079

ABN: 91 05 0159 898

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

NZBN: 9429046024954

Auckland Christchurch 35 O'Rorke Road 43 Detroit Drive Rolleston, Auckland 1061 Christchurch 7675 Tel: +64 9 526 45 51 Tel: 0800 856 450 IANZ# 1327 IANZ# 1290

### Sample Receipt Advice

Company name:

iEnvironmental Australia

Contact name:

Kristyn Numa

Project name:

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303 5 Day

Turnaround time: Date/Time received

Jun 22, 2022 2:47 PM

**Eurofins reference** 

901484

### Sample Information

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

TB analysis corrected, bags found for missing asbestos samples. QS01A forwarded to ALS.

### Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Asim Khan on phone : or by email: Asim Khan@eurofins.com

Results will be delivered electronically via email to Kristyn Numa - kristyn.numa@ienvi.com.au.

Note: A copy of these results will also be delivered to the general iEnvironmental Australia email address.





#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

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> Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51

IANZ# 1327

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

Address:

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

Order No.: 20220303 Report #: 901484

Canberra

Mitchell

ACT 2911

Phone: 1800 234 897 Fax:

02 9911 4001

Received: Jun 22, 2022 2:47 PM Due: Jul 4, 2022

**Priority:** 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303

**Eurofins Analytical Services Manager: Asim Khan** 

																			Euroi	IIIS A	naiyu	icai Serv
		Sa	ımple Detail			2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	oourne Laborato	ory - NATA # 12	261 Site # 12	54		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261	Site # 18217	7				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 126	1 Site # 207	94													Х		Х		<u> </u>	Х
Exte	rnal Laboratory			1																	<u> </u>	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	BH01 / 0.2	Jun 20, 2022		Soil	S22-Jn0063769	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х	<u> </u>	Х
2	BH02 / 0.2	Jun 20, 2022		Soil	S22-Jn0063770	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Χ	Х	Х	<u> </u>	Х
3	BH03 / 0.2	Jun 20, 2022		Soil	S22-Jn0063771	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х	<u> </u>	Х
4	BH04 / 0.2	Jun 20, 2022		Soil	S22-Jn0063772	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Χ	Х	Х	<u> </u>	Х
5	BH05 / 0.2	Jun 20, 2022		Soil	S22-Jn0063773	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х	<u> </u>	Х
6	BH06 / 0.2	Jun 20, 2022		Soil	S22-Jn0063774	Х	Х	Х	Х	Х	Х	X		Х	Х	Х		Х	Х	Х	<u> </u>	X
7	BH07 / 0.2	Jun 20, 2022		Soil	S22-Jn0063775	Х	Х	Х	Х	Х	Х	X		Х	Х	Х		Х	Х	Х	<del></del>	X
8	BH08/ 0.2	Jun 20, 2022		Soil	S22-Jn0063776	Х	Х	Х	X	Х	Х	X		Х	Х	Х		X	Х	Х	<u> </u>	X
9	BH09 / 0.2	Jun 20, 2022		Soil	S22-Jn0063777	X	X	X	X	X	X	X		X	X	X		X	X	X	$\vdash$	X
10	BH10 / 0.2	Jun 20, 2022		Soil	S22-Jn0063778	X	X	X	X	X	X	X		X	X	X		X	X	X	$\vdash$	X
11	BH11 / 0.2	Jun 20, 2022		Soil	S22-Jn0063779	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х	Ь	X



#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

ABN: 50 005 085 521

Melbourne Geelong 6 Monterey Road 19/8 Lewalan Street Dandenong South Grovedale VIC 3175 VIC 3216 Tel: +61 3 8564 5000 Tel: +61 3 8564 5000

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NATA# 2377 Site# 2370

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**Company Name:** 

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iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

Order No.: 20220303 Report #: 901484

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Phone: 1800 234 897 Fax:

Canberra

Mitchell

ACT 2911

02 9911 4001

Received: Jun 22, 2022 2:47 PM

**Eurofins Analytical Services Manager: Asim Khan** 

Due: Jul 4, 2022 **Priority:** 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303

		Sample [	Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
		ory - NATA # 1261 Site			Х	Х							Х		Х		Х	Х	Х	Х	
		- NATA # 1261 Site #					Х	Х	Х	Х	X	Х		X	Х		Х	Х	Х	Х	$\vdash$
		y - NATA # 1261 Site #														Х		Х		$\vdash\vdash\vdash$	Х
12	BH11 / 2.5	Jun 20, 2022	Soil	S22-Jn0063780		.,	.,	.,	.,	X	X		X	.,		.,	X		X	$\vdash$	
13	BH12 / 0.2	Jun 20, 2022	Soil	S22-Jn0063781	Х	Х	Х	Х	Х	X	X		X	Х	Х	Х	X	Х	X	$\vdash$	Х
14	BH12 / 2.5	Jun 20, 2022	Soil	S22-Jn0063782	.,	.,				X	X		X				X		X	$\vdash$	
15	BH13 / 0.2	Jun 20, 2022	Soil	S22-Jn0063783	Х	Х	Х	Х	Х	X	X		X	X	Х	Х	X	Х	X	$\vdash$	Х
16	BH13 / 2.5	Jun 20, 2022	Soil	S22-Jn0063784	.,	.,				X	X		X				X		X	$\vdash$	
17	BH14 / 0.2	Jun 20, 2022	Soil	S22-Jn0063785	Х	Х	Х	Х	Х	X	X		X	X	Х	Х	X	Х	X	$\vdash$	Х
18	BH14 / 1.0	Jun 20, 2022	Soil	S22-Jn0063786		.,	.,	.,	.,	X	X		X	.,			X		X	$\vdash$	
19	MW03 / 0.2	Jun 20, 2022	Soil	S22-Jn0063787	Х	Х	Х	Х	Х	X	X		X	X	Х		X	Х	X	$\vdash$	Х
20	MW03 / 4.5	Jun 20, 2022	Soil	S22-Jn0063788	.,	.,				X	X		X				X		X	$\vdash$	
21	MW01 / 0.2	Jun 20, 2022	Soil	S22-Jn0063789	X	X	X	Х	X	X	X		X	X	X		X	Х	X		X
22	MW01 / 4.5	Jun 20, 2022	Soil	S22-Jn0063790	Х	Х	X	<u> </u>	Х	Х	X		Х	X	Х		Х		Х		Х
23	MW02 / 0.2	Jun 20, 2022	Soil	S22-Jn0063791	Х	Х	X	X	Х	Х	X		Х	X	Х	Х	Х	Х	Х		Х
24	MW02 / 4.5	Jun 20, 2022	Soil	S22-Jn0063792	Х	Х	Х	<u> </u>	Х	Х	X		Х	X	Х		Х		Х		Х
25	BH15 / 0.2	Jun 20, 2022	Soil	S22-Jn0063793	Х	Х	Х	Х	Х	Х	X		Х	Х	Χ	Χ	Χ	Χ	Χ		Х



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Phone: Fax:

1800 234 897

Brisbane

Murarrie

QLD 4172

Tel: +61 7 3902 4600

02 9911 4001

Received: Jun 22, 2022 2:47 PM

Due: Jul 4, 2022 **Priority:** 5 Day

ABN: 91 05 0159 898

NATA# 2377 Site# 2370

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

																					cai oc
		Sam	ple Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mel	bourne Laborate	ory - NATA # 1261	1 Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Si	te # 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 1261 \$	Site # 20794													Х		Х			Х
26	BH15 / 2.0	Jun 20, 2022	Soil	S22-Jn0063794	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
27	QS01	Jun 20, 2022	Soil	S22-Jn0063795						Х	Х		Х	Х			Х		Х		Х
28	QS02	Jun 20, 2022	Soil	S22-Jn0063796						Х	Х		Х	Х			Х		Х		Х
29	TB01	Jun 20, 2022	Water	S22-Jn0063797																Х	
30	TB02	Jun 20, 2022	Water	S22-Jn0063798																Х	
31	RB01	Jun 20, 2022	Water	S22-Jn0063799																Х	
32	RB02	Jun 20, 2022	Water	S22-Jn0063800																Х	
33	MW01 / 1.5	Jun 20, 2022	Soil	S22-Jn0063801								Х									
34	TS01	Jun 20, 2022	Water	S22-Jn0065102								Х									
35	TS02	Jun 20, 2022	Water	S22-Jn0065103								Х									
Tes	t Counts				21	21	21	18	21	28	28	3	28	23	21	5	28	18	28	4	23



### Certificate of Analysis

## **Environment Testing**

iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood **NSW 2067** 





**NATA Accredited Accreditation Number 1261** Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Kristyn Numa 901484-AID Report

CONCORD NSW CONCORD HS PSI AND DSI **Project Name** 

**Project ID** 20220303 **Received Date** Jun 22, 2022 **Date Reported** Jul 11, 2022

#### Methodology:

Asbestos Fibre Identification

Conducted in accordance with the Australian Standard AS 4964 - 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral **Fibres** 

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an

independent technique.

Subsampling Soil Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a subsampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-

sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestoscontaining material (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

> Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145 ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Page 1 of 10



Project Name CONCORD NSW CONCORD HS PSI AND DSI

 Project ID
 20220303

 Date Sampled
 Jun 20, 2022

 Report
 901484-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH01 / 0.2	22-Jn0063769	Jun 20, 2022	Approximate Sample 523g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH02 / 0.2	22-Jn0063770	Jun 20, 2022	Approximate Sample 584g Sample consisted of: Brown fine-grained sandy soil, organic debris, glass fragments and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH03 / 0.2	BH03 / 0.2 22-Jn0063771		Approximate Sample 433g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH04 / 0.2	22-Jn0063772	Jun 20, 2022	Approximate Sample 366g Sample consisted of: Brown fine-grained sandy soil, wood chips, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH05 / 0.2	22-Jn0063773	Jun 20, 2022	Approximate Sample 589g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH06 / 0.2	22-Jn0063774	Jun 20, 2022	Approximate Sample 383g Sample consisted of: Brown coarse-grained clayey sandy soil, wood chips, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Report Number: 901484-AID



Date Reported: Jul 11, 2022

## **Environment Testing**

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH07 / 0.2	22-Jn0063775	Jun 20, 2022	Approximate Sample 596g Sample consisted of: Brown fine-grained clayey soil, cement, coal and rocks	ACM: Chrysotile and crocidolite asbestos detected in fibre cement fragments. Approximate raw weight of ACM = 4.6g Total estimated asbestos content in ACM = 0.23g* Total estimated asbestos concentration in ACM = 0.038% w/w* Organic fibre detected. No trace asbestos detected.
BH08/ 0.2	22-Jn0063776	Jun 20, 2022	Approximate Sample 434g Sample consisted of: Brown coarse-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH09 / 0.2	22-Jn0063777	Jun 20, 2022	Approximate Sample 503g Sample consisted of: Brown coarse-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH10 / 0.2	22-Jn0063778	Jun 20, 2022	Approximate Sample 530g Sample consisted of: Brown coarse-grained clayey sandy soil, sand stone and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected.  No trace asbestos detected.
BH11 / 0.2	22-Jn0063779	Jun 20, 2022	Approximate Sample 535g Sample consisted of: Brown coarse-grained clayey sandy soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH12 / 0.2	22-Jn0063781	Jun 20, 2022	Approximate Sample 561g Sample consisted of: Brown coarse-grained clayey sandy soil, sand stone and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH13 / 0.2	22-Jn0063783	Jun 20, 2022	Approximate Sample 637g Sample consisted of: Brown coarse-grained clayey sandy soil, sand stone and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH14 / 0.2	22-Jn0063785	Jun 20, 2022	Approximate Sample 767g Sample consisted of: Brown coarse-grained sandy soil, cement, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
MW03 / 0.2	22-Jn0063787	Jun 20, 2022	Approximate Sample 596g Sample consisted of: Brown fine-grained clayey soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
MW01 / 0.2	22-Jn0063789	Jun 20, 2022	Approximate Sample 490g Sample consisted of: Brown fine-grained clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
MW02 / 0.2	22-Jn0063791	Jun 20, 2022	Approximate Sample 726g Sample consisted of: Brown coarse-grained soil, brick, bitumen, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Page 3 of 10

Report Number: 901484-AID



Date Reported: Jul 11, 2022

## **Environment Testing**

Client Sample I	D Eurofins Sample No.	Date Sampled	Sample Description	Result
BH15 / 0.2	22-Jn0063793		Sample consisted of: Brown coarse-grained clayey sandy soil and	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145 ABN : 50 005 085 521 Telephone: +61 2 9900 8400



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyJun 30, 2022Indefinite



Address:

#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

ABN: 50 005 085 521

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Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 Canberra Brisbane Unit 1.2 Dacre Street 1/21 Smallwood Place Mitchell Murarrie ACT 2911 QLD 4172 Tel: +61 2 6113 8091 Tel: +61 7 3902 4600

Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 Tel: +61 2 4968 8448

PO Box 60 Wickham 2293 NATA# 1261 Site# 20794 NATA# 1261 Site# 25079

Perth

Welshpool

WA 6106

46-48 Banksia Road

Tel: +61 8 6253 4444

NATA# 2377 Site# 2370

ABN: 91 05 0159 898

Penrose.

Auckland 1061

IANZ# 1327

Tel: +64 9 526 45 51

NZBN: 9429046024954 Auckland 35 O'Rorke Road

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** iEnvironmental Australia Order No.: 20220303 Received: Jun 22, 2022 2:47 PM

> Level 3, 465 Victoria Ave Report #: 901484 Due: Jul 4, 2022 Chatswood Phone: 1800 234 897 Priority: 5 Dav

NSW 2067 02 9911 4001 Fax: **Contact Name:** Kristyn Numa **Project Name:** CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303 **Eurofins Analytical Services Manager: Asim Khan** 

		Sa	ample Detail			2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Melk	ourne Laborate	ory - NATA # 12	261 Site # 12	254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261	Site # 18217	7				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 126	1 Site # 207	94													Х		Х			Х
Exte	rnal Laboratory	<i>!</i>																				
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	BH01 / 0.2	Jun 20, 2022		Soil	S22-Jn0063769	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
2	BH02 / 0.2	Jun 20, 2022		Soil	S22-Jn0063770	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
3	BH03 / 0.2	Jun 20, 2022		Soil	S22-Jn0063771	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
4	BH04 / 0.2	Jun 20, 2022		Soil	S22-Jn0063772	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
5	BH05 / 0.2	Jun 20, 2022		Soil	S22-Jn0063773	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
6	BH06 / 0.2	Jun 20, 2022		Soil	S22-Jn0063774	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
7	BH07 / 0.2	Jun 20, 2022		Soil	S22-Jn0063775	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
8	BH08/ 0.2	Jun 20, 2022		Soil	S22-Jn0063776	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
9	BH09 / 0.2	Jun 20, 2022		Soil	S22-Jn0063777	Х	Х	Х	Х	Х	Х	Х		Х	X	Х		Х	Х	Х		Х
10	BH10 / 0.2	Jun 20, 2022		Soil	S22-Jn0063778	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
11	BH11 / 0.2	Jun 20, 2022		Soil	S22-Jn0063779	Χ	Х	Х	Х	Х	Χ	Х		Х	Х	Х		Х	Х	Х		X



#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

ABN: 50 005 085 521

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4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Tel: +61 2 4968 8448 NATA# 1261 Site# 20794 NATA# 1261 Site# 25079

NZBN: 9429046024954

> Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

Address:

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

Order No.: 20220303 Report #: 901484

Phone: 1800 234 897 Fax:

02 9911 4001

Received: Jun 22, 2022 2:47 PM Due: Jul 4, 2022

**Priority:** 5 Day

ABN: 91 05 0159 898

46-48 Banksia Road

Tel: +61 8 6253 4444

NATA# 2377 Site# 2370

Perth

Welshpool

WA 6106

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303

**Eurofins Analytical Services Manager: Asim Khan** 

		Sam	ple Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	oourne Laborato	ory - NATA # 1261	Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Sit	te # 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris		y - NATA # 1261 S	Site # 20794	1												Х		Х		<u> </u>	Х
12	BH11 / 2.5	Jun 20, 2022	Soil	S22-Jn0063780						Х	Х		Х				Х		Х	<u> </u>	
13	BH12 / 0.2	Jun 20, 2022	Soil	S22-Jn0063781	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х	<u> </u>	Х
14	BH12 / 2.5	Jun 20, 2022	Soil	S22-Jn0063782						Х	Х		Х				Х		Χ		
15	BH13 / 0.2	Jun 20, 2022	Soil	S22-Jn0063783	Х	Х	Х	Х	Х	Х	Х		Х	Х	Χ	Х	Х	Χ	Χ		Х
16	BH13 / 2.5	Jun 20, 2022	Soil	S22-Jn0063784						Х	Х		Х				Х		Х		
17	BH14 / 0.2	Jun 20, 2022	Soil	S22-Jn0063785	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
18	BH14 / 1.0	Jun 20, 2022	Soil	S22-Jn0063786						Х	Х		Х				Х		Х		
19	MW03 / 0.2	Jun 20, 2022	Soil	S22-Jn0063787	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
20	MW03 / 4.5	Jun 20, 2022	Soil	S22-Jn0063788						Х	Х		Х				Х		Х		
21	MW01 / 0.2	Jun 20, 2022	Soil	S22-Jn0063789	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
22	MW01 / 4.5	Jun 20, 2022	Soil	S22-Jn0063790	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
23	MW02 / 0.2	Jun 20, 2022	Soil	S22-Jn0063791	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
24	MW02 / 4.5	Jun 20, 2022	Soil	S22-Jn0063792	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
25	BH15 / 0.2	Jun 20, 2022	Soil	S22-Jn0063793	Х	Х	Χ	Χ	Х	Х	Х		Χ	Х	Χ	Χ	Х	Χ	Χ		Х



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**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303

**Eurofins Analytical Services Manager: Asim Khan** 

**Eurofins ARL Pty Ltd Eurofins Environment Testing NZ Ltd** 

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Auckland

Penrose,

NZBN: 9429046024954

		Sample	e Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	oourne Laborate	ory - NATA # 1261 S	Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Site	# 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 1261 Sit	e # 20794													Х		Х			Х
26	BH15 / 2.0	Jun 20, 2022	Soil	S22-Jn0063794	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
27	QS01	Jun 20, 2022	Soil	S22-Jn0063795						Х	Х		Х	Х			Х		Х		X
28	QS02	Jun 20, 2022	Soil	S22-Jn0063796						Х	Х		Х	Х			Х		Х		X
29	TB01	Jun 20, 2022	Water	S22-Jn0063797																Х	
30	TB02	Jun 20, 2022	Water	S22-Jn0063798																Х	
31	RB01	Jun 20, 2022	Water	S22-Jn0063799																Х	
32	RB02	Jun 20, 2022	Water	S22-Jn0063800																Х	
33	MW01 / 1.5	Jun 20, 2022	Soil	S22-Jn0063801								Х									
34	TS01	Jun 20, 2022	Water	S22-Jn0065102								Х									
35	TS02	Jun 20, 2022	Water	S22-Jn0065103								Х									
Tes	Counts				21	21	21	18	21	28	28	3	28	23	21	5	28	18	28	4	23



#### **Internal Quality Control Review and Glossary General**

- QC data may be available on request.
  All soil results are reported on a dry basis, unless otherwise stated.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with the colour blue indicates data provided by customer that may have an impact on the results
- Information identified on this report with the colour orange indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
- This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w) % w/w:

F/fld

Airborne fibre filter loading as Fibres (N) per Fields counted (n)
Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C) F/mL

Mass, e.g. of whole sample ( $\mathbf{M}$ ) or asbestos-containing find within the sample ( $\mathbf{m}$ ) Concentration in grams per kilogram g, kg

g/kg L. mL

Volume, e.g. of air as measured in AFM (V = r x t)
Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r) L/min

Time (t), e.g. of air sample collection period min

Calculations

 $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{p}\right) \times \left(\frac{1}{p}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{p}\right) \times \left(\frac{1}{p}\right)$ Airborne Fibre Concentration:

Asbestos Content (as asbestos):  $\% w/w = \frac{(m \times P_A)}{M}$ Weighted Average (of asbestos):  $\%_{WA} = \sum_{r} \frac{(m \times P_A)_x}{r}$ 

**Terms** 

Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 Appendix 2, else assumed to be 15% in accordance with WA DOH Appendix 2 (P<sub>A</sub>). %asbestos

Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the ACM

NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.

Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable AF

material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable"

**AFM** Airborne Fibre Monitoring, e.g. by the MFM.

Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004. Amosite

AS Australian Standard.

Asbestos Content (as asbestos) Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w)

Chrysotile Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004

COC

Crocidolite Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.

Dry Sample is dried by heating prior to analysis.

DS Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.

Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become FA

friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.

Fibre Count Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003

Fibre ID Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.

Friable Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.

HSG248 UK HSE HSG248, Asbestos: The Analysts Guide, 2nd Edition (2021).

HSG264 UK HSE HSG264, Asbestos: The Survey Guide (2012).

ISO (also ISO/IEC) International Organization for Standardization / International Electrotechnical Commission.

Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece K Factor

graticule area of the specific microscope used for the analysis (a).

Limit of Reporting. LOR

MFM (also NOHSC:3003) Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, Guidance Note on the Membrane

Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC:3003(2005)]. National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).

NEPM (also ASC NEPM) Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004. Organic

PCM Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.

ы м Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.

Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. SMF

SRA Sample Receipt Advice.

Weighted Average

Date Reported: Jul 11, 2022

Trace Analysis Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.

UK HSE HSG United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication,

UMF Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004.

Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%wa).

May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos

WA DOH Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (updated 2021), including Appendix Four: Laboratory analysis

> Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145 Page 9 of 10 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 901484-AID



#### Comments

22-Jn0063774, 22-Jn0063776 and 22-Jn0063772: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

22-Jn0063789, 22-Jn0063775, 22-Jn0063771, 22-Jn0063787 and 22-Jn0063791: The samples received were not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-samples to be analysed accurately represented the samples received.

22-Jn0063771 and 22-Jn0063789: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

#### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

#### Asbestos Counter/Identifier:

Laxman Dias Senior Analyst-Asbestos Sayeed Abu Senior Analyst-Asbestos

#### Authorised by:

Sayeed Abu Senior Analyst-Asbestos Chamath JHM Annakkage Senior Analyst-Asbestos

Glenn Jackson General Manager

Final Report - this report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Date Reported: Jul 11, 2022

ABN: 50 005 085 521 Telephone: +61 2 9900 8400



iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Kristyn Numa

Report 901484-S

Project name CONCORD NSW CONCORD HS PSI AND DSI

Project ID 20220303
Received Date Jun 22, 2022

Client Sample ID			G01BH01 / 0.2	G01BH02 / 0.2	BH03 / 0.2	G01BH04 / 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063769	S22-Jn0063770	S22-Jn0063771	S22-Jn0063772
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit		·		
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
% Clay	1	%	18	4.1	17	9.8
Ammonia (as N)	5	mg/kg	< 5	< 5	< 5	< 5
Chloride	10	mg/kg	< 10	< 10	< 10	12
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	31	23	21	57
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	< 5	14	< 5	16
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	5.9	6.2	5.6	5.8
Total Kjeldahl Nitrogen (as N)	10	mg/kg	3300	5200	4400	3100
Total Nitrogen (as N)*	10	mg/kg	3300	5214	4400	3116
Total Organic Carbon	0.1	%	5.2	10	6.5	6.2
% Moisture	1	%	24	32	26	18
Total Recoverable Hydrocarbons	•	•				
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	52	54	< 20	120
TRH C15-C28	50	mg/kg	830	690	110	840
TRH C29-C36	50	mg/kg	430	510	130	740
TRH C10-C36 (Total)	50	mg/kg	1312	1254	240	1700
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	130	110	< 50	200
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	130	110	< 50	200
TRH >C16-C34	100	mg/kg	1100	1000	200	1300
TRH >C34-C40	100	mg/kg	220	290	< 100	420
TRH >C10-C40 (total)*	100	mg/kg	1450	1400	200	1920
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
ВТЕХ						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1



Client Sample ID			G01BH01 / 0.2	G01BH02 / 0.2	DU02 / 0.2	<sup>G01</sup> BH04 / 0.2
Sample Matrix			Soil	Soil	BH03 / 0.2 Soil	Soil
•						
Eurofins Sample No.			1	S22-Jn0063770		S22-Jn0063772
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	90	72	71	75
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	14	14	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	14	14	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	14	14	1.2	1.2
Acenaphthene	0.5	mg/kg	0.7	0.7	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	2.0	0.6	< 0.5	< 0.5
Anthracene	0.5	mg/kg	8.3	3.7	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	12	7.2	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	9.6	9.3	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	7.0	6.9	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	3.0	4.3	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	7.0	8.1	< 0.5	< 0.5
Chrysene	0.5	mg/kg	12	9.1	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	1.3	1.6	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	28	19	< 0.5	< 0.5
Fluorene	0.5	mg/kg	2.4	0.7	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	4.1	4.3	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 5	0.7	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	22	13	< 0.5	< 0.5
Pyrene	0.5	mg/kg	27	19	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	150	110	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	145	131	110	113
p-Terphenyl-d14 (surr.)	1	%	116	134	112	121
Chlorinated Hydrocarbons	<b>'</b>					
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloro-m-xylene (surr.)	1	%	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ U.S	\ U.U	<u> </u>
Polychlorinated Biphenyls	l I	70				
	0.4	m = /1 - =	-04	. 4	-04	. 4
Arcolor 1331	0.1	mg/kg	< 0.1	< 1	< 0.1	<1
Aroclor-1221 Aroclor-1232	0.1	mg/kg	< 0.1	< 1	< 0.1	<1
	1 () 1	mg/kg	< 0.1	< 1	< 0.1	< 1



Client Sample ID			G01BH01 / 0.2	<sup>G01</sup> BH02 / 0.2	BH03 / 0.2	G01BH04 / 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.						S22-Jn0063772
·						
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls		1				
Aroclor-1248	0.1	mg/kg	< 0.1	< 1	< 0.1	< 1
Aroclor-1254	0.1	mg/kg	< 0.1	< 1	< 0.1	< 1
Aroclor-1260	0.1	mg/kg	< 0.1	< 1	< 0.1	< 1
Total PCB*	0.1	mg/kg	< 0.1	< 1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	INT	99	122	104
Tetrachloro-m-xylene (surr.)	1	%				
Phenols (Halogenated)	ı					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)		_				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	136	104	103	96
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Arsenic	2	mg/kg	42	7.6	7.0	4.8
Cadmium	0.4	mg/kg	0.8	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	29	18	20	12
Copper	5	mg/kg	96	44	17	16
Iron	20	mg/kg	61000	20000	37000	41000
Lead	5	mg/kg	310	230	57	42
Mercury	0.1	mg/kg	0.3	1.5	< 0.1	< 0.1
Nickel	5	mg/kg	45	8.0	6.2	6.6
Zinc	5	mg/kg	600	240	56	66
Heavy Metals						
Iron (%)	0.01	%	61	2.0	3.7	4.1
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	14	27	22	24

Report Number: 901484-S



Client Sample ID Sample Matrix			G01BH01 / 0.2 Soil	G01BH02 / 0.2 Soil	BH03 / 0.2 Soil	G01BH04 / 0.2 Soil
Eurofins Sample No.			S22-Jn0063769	S22-Jn0063770	S22-Jn0063771	S22-Jn0063772
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short	<u> </u>					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	176	186	163	INT
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	< 5	< 5	< 5
18O2-PFHxS (surr.)	1	%	105	106	109	93
13C8-PFOS (surr.)	1	%	104	101	104	83
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	< 5	< 5	< 5	< 5
13C8-PFOA (surr.)	1	%	94	89	90	73
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5

Client Sample ID			BH05 / 0.2	BH06 / 0.2	BH07 / 0.2	BH08/ 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063773	S22-Jn0063774	S22-Jn0063775	S22-Jn0063776
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit	,	,	,	·
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
% Clay	1	%	< 1	15	16	27
Ammonia (as N)	5	mg/kg	< 5	< 5	< 5	< 5
Chloride	10	mg/kg	< 10	< 10	< 10	< 10
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	46	28	79	17
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	< 5	8.4	< 5	6.0
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	7.8	6.9	7.4	6.1
Total Kjeldahl Nitrogen (as N)	10	mg/kg	780	2300	2000	670
Total Nitrogen (as N)*	10	mg/kg	780	2308.4	2000	676
Total Organic Carbon	0.1	%	0.6	6.9	4.5	3.3
% Moisture	1	%	14	26	18	14
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	32	31
TRH C15-C28	50	mg/kg	55	160	150	130
TRH C29-C36	50	mg/kg	77	210	190	120
TRH C10-C36 (Total)	50	mg/kg	132	370	372	281
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	110	290	270	220
TRH >C34-C40	100	mg/kg	< 100	150	110	< 100
TRH >C10-C40 (total)*	100	mg/kg	110	440	380	220
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID			BH05 / 0.2	BH06 / 0.2	BH07 / 0.2	BH08/ 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22- In0063773	S22- In0063774	S22-Jn0063775	S22-Jn0063776
•						
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	81	75	91
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	1.8	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	2.0	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	2.3	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	1.2	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	1.3	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	0.9	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	1.6	< 0.5
Chrysene	0.5	mg/kg	< 0.5	0.5	1.6	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	1.0	2.4	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	0.7	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	1.0	< 0.5
Pyrene	0.5	mg/kg	< 0.5	1.0	2.3	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	2.5	14	< 0.5
2-Fluorobiphenyl (surr.)	1	%	79	108	100	107
p-Terphenyl-d14 (surr.)	1	%	74	99	93	102
Chlorinated Hydrocarbons						
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloro-m-xylene (surr.)	1	%				



Client Sample ID			BH05 / 0.2	BH06 / 0.2	BH07 / 0.2	BH08/ 0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.				S22-Jn0063774		
·			1			İ
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls		1				
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	60	88	82	85
Tetrachloro-m-xylene (surr.)	1	%				
Phenols (Halogenated)	1					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	77	92	103	108
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals		T				
Arsenic	2	mg/kg	< 2	16	< 2	17
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	120	74	< 5	26
Copper	5	mg/kg	55	32	< 5	23
Iron	20	mg/kg	180000	130000	1000	70000
Lead	5	mg/kg	< 5	51	6.2	110
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	270	54	< 5	7.5
Zinc	5	mg/kg	100	95	13	130
Heavy Metals	T					
Iron (%)	0.01	%	18	13	1.0	7.0
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	28	27	23	21



Client Sample ID Sample Matrix			BH05 / 0.2 Soil	BH06 / 0.2 Soil	BH07 / 0.2 Soil	BH08/ 0.2 Soil
Eurofins Sample No.				S22-Jn0063774		S22-Jn0063776
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	99	155	158	185
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	< 5	< 5	< 5
18O2-PFHxS (surr.)	1	%	100	108	105	105
13C8-PFOS (surr.)	1	%	94	98	96	104
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
13C8-PFOA (surr.)	1	%	97	86	84	88
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5

Client Sample ID			BH09 / 0.2	BH10 / 0.2	BH11 / 0.2	BH11 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063777	S22-Jn0063778	S22-Jn0063779	S22-Jn0063780
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit	,	,	,	,
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
% Clay	1	%	31	8.5	28	_
Ammonia (as N)	5	mg/kg	< 5	< 5	< 5	-
Chloride	10	mg/kg	15	< 10	41	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 agueous extract at 25°C as rec.)	10	uS/cm	60	37	66	-
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	< 5	19	< 5	-
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	7.1	5.6	5.7	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	510	2600	3400	-
Total Nitrogen (as N)*	10	mg/kg	510	2619	3400	-
Total Organic Carbon	0.1	%	1.6	4.9	3.1	-
% Moisture	1	%	14	22	18	21
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	24	< 20	< 20
TRH C15-C28	50	mg/kg	76	140	64	110
TRH C29-C36	50	mg/kg	51	130	74	66
TRH C10-C36 (Total)	50	mg/kg	127	294	138	176
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	110	220	120	150
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	110	220	120	150
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-



Client Sample ID			BH09 / 0.2	BH10 / 0.2	BH11 / 0.2	BH11 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063777	S22- In0063778	S22-Jn0063779	S22-Jn0063780
•			Jun 20, 2022			
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
ВТЕХ						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	96	69	72	72
Polycyclic Aromatic Hydrocarbons		<del>                                     </del>				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.9	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	1.0	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	0.9	< 0.5	0.5
Pyrene	0.5	mg/kg	< 0.5	1.0	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	3.9	< 0.5	1.0
2-Fluorobiphenyl (surr.)	1	%	101	101	104	106
p-Terphenyl-d14 (surr.)	1	%	98	97	97	92
Chlorinated Hydrocarbons						
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg %	< 0.5	< 0.5	< 0.5	< 0.5 98

Report Number: 901484-S



Client Sample ID			DUI00 / 0 0	D140 / 0 0	DU44 / 0 0	DU44 / 0 5
•			BH09 / 0.2	BH10 / 0.2	BH11 / 0.2	BH11 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063777	S22-Jn0063778	S22-Jn0063779	S22-Jn0063780
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchlorendate (surr.)	1	%	108	79	81	-
Tetrachloro-m-xylene (surr.)	1	%				-
Phenols (Halogenated)		1				
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols* 4-Nitrophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dinoseb	20	mg/kg mg/kg	< 5 < 20	< 5 < 20	< 5 < 20	< 5 < 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	112	102	104	102
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals	20	ing/itg	120	120	120	120
Arsenic	2	mg/kg	8.2	9.6	14	140
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.7
Chromium	5	mg/kg	16	22	30	19
Copper	5	mg/kg	11	21	21	74
Iron	20	mg/kg	32000	24000	37000	-
Lead	5	mg/kg	25	51	63	130
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	8.4	6.8	53
Zinc	5	mg/kg	17	91	70	190
Heavy Metals	1					
Iron (%)	0.01	%	3.2	2.4	3.7	-
Cation Exchange Capacity	,					
Cation Exchange Capacity	0.05	meq/100g	22	18	15	-
	1 0.00	,,9				1



Client Sample ID Sample Matrix			BH09 / 0.2 Soil	BH10 / 0.2 Soil	BH11 / 0.2 Soil	BH11 / 2.5 Soil
Eurofins Sample No.			S22-Jn0063777	S22-Jn0063778	S22-Jn0063779	S22-Jn0063780
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short	<u> </u>					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	153	144	127	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	115	107	108	-
13C8-PFOS (surr.)	1	%	106	102	100	-
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	< 5	< 5	< 5	-
13C8-PFOA (surr.)	1	%	84	81	89	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-

Client Sample ID			BH12 / 0.2	BH12 / 2.5	BH13 / 0.2	BH13 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063781	S22-Jn0063782	S22-Jn0063783	S22-Jn0063784
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	-
% Clay	1	%	17	-	4.2	-
Ammonia (as N)	5	mg/kg	< 5	-	< 5	-
Chloride	10	mg/kg	< 10	-	< 10	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	48	-	72	-
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	< 5	-	< 5	-
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	7.7	-	9.3	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	280	-	340	-
Total Nitrogen (as N)*	10	mg/kg	280	-	340	-
Total Organic Carbon	0.1	%	0.8	-	0.7	-
% Moisture	1	%	16	21	9.8	39
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	52
TRH C15-C28	50	mg/kg	73	< 50	< 50	130
TRH C29-C36	50	mg/kg	74	< 50	< 50	76
TRH C10-C36 (Total)	50	mg/kg	147	< 50	< 50	258
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	53
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	< 50	53
TRH >C16-C34	100	mg/kg	130	< 100	< 100	180
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	130	< 100	< 100	233
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	-



Client Sample ID			BH12 / 0.2	BH12 / 2.5	BH13 / 0.2	BH13 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
·						
Eurofins Sample No.			1		S22-Jn0063783	
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	144	78	90	76
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	107	100	108	114
p-Terphenyl-d14 (surr.)	1	%	91	99	97	118
Chlorinated Hydrocarbons						
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloro-m-xylene (surr.)	1	%		112		64



Client Sample ID			BH12 / 0.2	BH12 / 2.5	BH13 / 0.2	BH13 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063781	1	S22-Jn0063783	
•						
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls	<u> </u>	1				
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	86	-	75	-
Tetrachloro-m-xylene (surr.)	1	%		-		-
Phenols (Halogenated)	<u> </u>					
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	115	109	108	INT
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Arsenic	2	mg/kg	21	11	5.4	8.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	33	24	17	13
Copper	5	mg/kg	15	14	8.4	15
Iron	20	mg/kg	55000	-	18000	-
Lead	5	mg/kg	78	31	210	52
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.6	< 5	5.1	< 5
Zinc	5	mg/kg	54	110	62	100
Heavy Metals						
Iron (%)	0.01	%	5.5	-	1.8	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	15	-	27	-



Client Sample ID			BH12 / 0.2	BH12 / 2.5	BH13 / 0.2	BH13 / 2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063781		S22-Jn0063783	
•						l
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Sho	ort					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	-	< 10	-
13C2-6:2 FTSA (surr.)	1	%	97	-	112	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	-
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	-	< 5	-
18O2-PFHxS (surr.)	1	%	110	-	118	-
13C8-PFOS (surr.)	1	%	108	-	101	-
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	-	< 5	-
13C8-PFOA (surr.)	1	%	92	-	84	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	-
Actual Acidity (NLM-3.2)		_				
pH-KCL (NLM-3.1)	0.1	pH Units	8.3	-	8.7	-
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	-	< 2	-
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	-	< 0.003	-
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	8.1	-	7.9	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	-	< 0.02	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	-	< 2	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	-	< 2	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	-	< 0.02	-
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	0.006	-	0.014	-
Peroxide Extractable Sulfur	0.005	% S	0.016	-	0.024	-
HCI Extractable Sulfur	0.005	% S	N/A	-	N/A	-
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.02	% S	< 0.02	-	< 0.02	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	10	mol H+/t	< 10	-	< 10	-
Retained Acidity (S-NAS)	•	•				
Net Acid soluble sulfur (s-SNAS) NLM-4.1 <sup>S02</sup>	0.02	% S	N/A	-	N/A	-
Net Acid soluble sulfur (a-SNAS) NLM-4.1	10	mol H+/t	N/A	-	N/A	-
HCI Extractable Sulfur Correction Factor	1	factor	2.0	-	2.0	-
Extractable Calcium	•	_				
Calcium - KCI Extractable	0.005	% Ca	0.41	-	0.31	-
Calcium - Peroxide	0.005	% Ca	0.63	-	0.47	-
Calcium - Acid Reacted	0.005	% Ca	0.22	-	0.16	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.17	-	0.13	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	110	-	79	-
Extractable Magnesium						
Magnesium - KCI Extractable	0.005	% Mg	0.023	-	0.009	-
Magnesium - Peroxide	0.005	% Mg	0.041	-	0.024	-
Magnesium - Acid Reacted	0.005	% Mg	0.018	-	0.016	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.023	-	0.021	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	14	-	13	-
Acid Neutralising Capacity (ANCE)	, 0.000	,			.,	
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	1.1	_	0.87	-
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	0.37	_	0.28	_
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t		_	170	_



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	BH12 / 0.2 Soil S22-Jn0063781 Jun 20, 2022	BH12 / 2.5 Soil S22-Jn0063782 Jun 20, 2022	BH13 / 0.2 Soil S22-Jn0063783 Jun 20, 2022	BH13 / 2.5 Soil S22-Jn0063784 Jun 20, 2022
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	-	1.5	-
Net Acidity (Including ANC)		-				
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10	-	< 10	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02	-	< 0.02	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1	-	< 1	-
Extraneous Material						
<2mm Fraction	0.005	g	13	-	11	-
>2mm Fraction	0.005	g	2.8	-	5.0	-
Analysed Material	0.1	%	82	-	69	-
Extraneous Material	0.1	%	18	-	31	-

Client Sample ID			BH14 / 0.2	BH14 / 1.0	MW03 / 0.2	MW03 / 4.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063785	S22-Jn0063786	S22-Jn0063787	S22-Jn0063788
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
		-				
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	-
% Clay	1	%	4.9	-	8.0	-
Ammonia (as N)	5	mg/kg	< 5	-	< 5	-
Chloride	10	mg/kg	< 10	-	< 10	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	110	-	62	-
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	< 5	-	< 5	-
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	7.8	-	8.5	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	180	-	350	-
Total Nitrogen (as N)*	10	mg/kg	180	-	350	-
Total Organic Carbon	0.1	%	1.0	-	1.2	-
% Moisture	1	%	11	8.5	13	5.2
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 200	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	1100	170	< 50
TRH C29-C36	50	mg/kg	< 50	1500	140	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	2600	310	< 50
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 500	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 500	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	2100	270	< 100
TRH >C34-C40	100	mg/kg	< 100	1600	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	3700	270	< 100
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	-



Client Sample ID			BH14 / 0.2	BH14 / 1.0	MW03 / 0.2	MW03 / 4.5
Sample Matrix			Soil	Soil	Soil	Soil
•				S22-Jn0063786		
Eurofins Sample No.			1			S22-Jn0063788
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
ВТЕХ						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	129	128	85	67
Polycyclic Aromatic Hydrocarbons	<u> </u>					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	8.7	4.2	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	8.7	4.4	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	8.7	4.7	1.2
Acenaphthene	0.5	mg/kg	< 0.5	2.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	2.7	0.6	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	4.9	2.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	6.3	3.2	< 0.5
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	3.7	2.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	1.6	0.9	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	5.6	3.2	< 0.5
Chrysene	0.5	mg/kg	< 0.5	7.4	2.9	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	14	4.3	< 0.5
Fluorene	0.5	mg/kg	< 0.5	1.1	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	2.1	1.4	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	6.2	1.8	< 0.5
Pyrene	0.5	mg/kg	< 0.5	15	4.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	75	28	< 0.5
2-Fluorobiphenyl (surr.)	1	%	129	147	129	120
p-Terphenyl-d14 (surr.)	1	%	108	120	102	95
Chlorinated Hydrocarbons	L.	•				
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloro-m-xylene (surr.)	1	%	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	80		68



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference Polychlorinated Biphenyls Aroclor-1016 Aroclor-1221	LOR	Unit		BH14 / 1.0 Soil S22-Jn0063786	MW03 / 0.2 Soil	MW03 / 4.5 Soil
Eurofins Sample No.  Date Sampled  Test/Reference  Polychlorinated Biphenyls  Aroclor-1016		Linit	S22-Jn0063785			
Date Sampled Test/Reference Polychlorinated Biphenyls Aroclor-1016		Unit		S22-Jn0063786		
Test/Reference Polychlorinated Biphenyls Aroclor-1016		Unit				S22-Jn0063788
Polychlorinated Biphenyls Aroclor-1016		Linit	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Aroclor-1016	0.1	Offic				
	0.4					
Arador 1221	0.1	mg/kg	< 0.1	-	< 0.1	-
ATOCIOI-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	65	-	INT	-
Tetrachloro-m-xylene (surr.)	1	%		-		-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	114	88	99	94
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals						
Arsenic	2	mg/kg	2.5	5.6	20	23
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	11	50	28	46
Copper	5	mg/kg	21	27	39	27
Iron	20	mg/kg	21000	-	35000	-
Lead	5	mg/kg	19	79	89	38
Mercury	0.1	mg/kg	< 0.1	0.6	< 0.1	< 0.1
Nickel	5	mg/kg	17	26	17	< 5
Zinc	5	mg/kg	36	88	56	15
Heavy Metals						
Iron (%)	0.01	%	2.1	-	3.5	-
Cation Exchange Capacity	•	•				
Cation Exchange Capacity	0.05	meq/100g	28	-	30	_



Client Sample ID			D144 / 0.0	D1144/40	MANA(02 / 0.2	MMA(02 / 4 F
1			BH14 / 0.2	BH14 / 1.0	MW03 / 0.2 Soil	MW03 / 4.5
Sample Matrix			Soil	Soil		Soil
Eurofins Sample No.			S22-Jn0063785			S22-Jn0063788
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Sho	ort	_				
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2	10	ua/ka	- 10		- 10	
13C2-6:2 FTSA (surr.)	10	ug/kg %	< 10 127	-	< 10 138	-
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	_	< 5	-
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg ug/kg	< 5	-	< 5	-
18O2-PFHxS (surr.)	1	%	110	-	108	-
13C8-PFOS (surr.)	1	%	107	_	104	-
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	_	< 5	_
13C8-PFOA (surr.)	1	%	91	-	91	_
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	_	< 5	_
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	_	< 5	_
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	_	< 5	_
Actual Acidity (NLM-3.2)		l agring	10		10	
pH-KCL (NLM-3.1)	0.1	pH Units	9.3	-	_	-
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t		_	_	_
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	_	_	-
Potential Acidity - Titratable Peroxide	0.000	70 pyrite O	V 0.000			
pH-OX	0.1	pH Units	8.5	_	_	_
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	_	_	_
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t		_	_	_
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t		_	_	_
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	_	_	_
Extractable Sulfur	0.02	70 pyrito C	10.02			
Sulfur - KCI Extractable	0.005	% S	0.013	_	_	_
Peroxide Extractable Sulfur	0.005	% S	0.024	_	_	_
HCI Extractable Sulfur	0.005	% S	N/A	_	_	_
Potential Acidity (SPOS)	0.000	700	14/7			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.02	% S	< 0.02	_	_	_
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	10	mol H+/t		_	_	-
Retained Acidity (S-NAS)	10	1110111170	V 10			
Net Acid soluble sulfur (s-SNAS) NLM-4.1 <sup>S02</sup>	0.02	% S	N/A	-	_	_
Net Acid soluble sulfur (a-SNAS) NLM-4.1	10	mol H+/t		-	_	_
HCI Extractable Sulfur Correction Factor	1	factor	2.0	_	_	-
Extractable Calcium		lactor	2.0			
Calcium - KCI Extractable	0.005	% Ca	0.30	-	-	-
Calcium - Peroxide	0.005	% Ca	0.96	-	-	-
Calcium - Acid Reacted	0.005	% Ca	0.66	-	_	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.53	-	-	-
Calcium - Acid Reacted (s-aCa)	0.005	mol H+/t	330	-	_	-
Extractable Magnesium	1 0.000	111101111/1	000			
Magnesium - KCI Extractable	0.005	% Mg	0.009	-	-	-
Magnesium - Peroxide	0.005	% Mg	0.009	-	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.036	-	-	-
Magnesium - Acid Reacted  Magnesium - Acid Reacted (s-aCa)	0.005	% N/I	0.027	-	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	mol H+/t	22	_	_	-
Acid Neutralising Capacity (ANCE)	0.000	1111/1				
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	2.1	-	_	_
Acid Neutralising Capacity - (ANCE)  Acid Neutralising Capacity - (s-ANCE)	0.02	% CaCO3	0.69	-	_	-
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t		_	_	_



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	BH14 / 0.2 Soil S22-Jn0063785 Jun 20, 2022	BH14 / 1.0 Soil S22-Jn0063786 Jun 20, 2022	MW03 / 0.2 Soil S22-Jn0063787 Jun 20, 2022	MW03 / 4.5 Soil S22-Jn0063788 Jun 20, 2022
Acid Neutralising Capacity (ANCbt)	LOR	Offic				
ANC Fineness Factor  Net Acidity (Including ANC)		factor	1.5	-	-	-
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10	-	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02	-	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1	-	-	-
Extraneous Material						
<2mm Fraction	0.005	g	18	-	-	-
>2mm Fraction	0.005	g	0.51	-	-	-
Analysed Material	0.1	%	97	-	-	-
Extraneous Material	0.1	%	2.8	-	-	-

Client Sample ID			MW01 / 0.2	MW01 / 4.5	MW02 / 0.2	MW02 / 4.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063789	S22-Jn0063790	S22-Jn0063791	S22-Jn0063792
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
	•	•				
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
% Clay	1	%	< 1	-	6.9	-
Ammonia (as N)	5	mg/kg	< 5	< 5	< 5	< 5
Chloride	10	mg/kg	< 10	35	< 10	420
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	67	-	140	-
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	14	< 5	< 5	< 5
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	6.7	-	8.6	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	2000	170	1200	74
Total Nitrogen (as N)*	10	mg/kg	2014	170	1200	74
Total Organic Carbon	0.1	%	6.5	-	2.0	-
% Moisture	1	%	19	19	14	18
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	28	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	130	< 50	65	160
TRH C29-C36	50	mg/kg	250	< 50	77	120
TRH C10-C36 (Total)	50	mg/kg	408	< 50	142	280
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	300	< 100	120	250
TRH >C34-C40	100	mg/kg	130	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	430	< 100	120	250
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID			MW01 / 0.2	MW01 / 4.5	MW02 / 0.2	MW02 / 4.5	
Sample Matrix			Soil	Soil	Soil	Soil	
Eurofins Sample No.			S22-Jn0063789	S22-Jn0063790	S22-Jn0063791	S22-Jn0063792	
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	
·	1.00	1.121	Juli 20, 2022	Juli 20, 2022	Juli 20, 2022	Juli 20, 2022	
Test/Reference	LOR	Unit					
BTEX		T ,,					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	
4-Bromofluorobenzene (surr.)	1	%	65	77	147	126	
Polycyclic Aromatic Hydrocarbons							
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6	
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2	
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
2-Fluorobiphenyl (surr.)	1	%	118	101	115	107	
p-Terphenyl-d14 (surr.)	1	%	81	106	102	101	
Chlorinated Hydrocarbons							
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Tetrachloro-m-xylene (surr.)	1	%					



Client Sample ID			MW01 / 0.2	MW01 / 4.5	MW02 / 0.2	MW02 / 4.5	
Sample Matrix			Soil	Soil	Soil	Soil	
Eurofins Sample No.				S22-Jn0063790			
•			1				
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	
Test/Reference	LOR	Unit					
Polychlorinated Biphenyls	<u> </u>	1					
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Dibutylchlorendate (surr.)	1	%	86	110	69	102	
Tetrachloro-m-xylene (surr.)	1	%					
Phenols (Halogenated)	<u> </u>						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1	
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1	
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1	
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1	
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10	
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1	
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20	
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5	
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1	
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5	
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4	
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5	
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20	
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Phenol-d6 (surr.)	1	%	64	101	84	87	
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20	
Heavy Metals							
Arsenic	2	mg/kg	18	19	3.6	11	
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4	
Chromium	5	mg/kg	24	39	14	72	
Copper	5	mg/kg	17	7.8	12	320	
Iron	20	mg/kg	40000	-	28000	-	
Lead	5	mg/kg	52	24	22	66	
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Nickel	5	mg/kg	7.9	< 5	7.9	5.5	
Zinc	5	mg/kg	78	13	42	210	
Heavy Metals							
Iron (%)	0.01	%	40	-	28	-	
Cation Exchange Capacity							
Cation Exchange Capacity	0.05	meq/100g	23	-	21	-	



Client Sample ID			MW01 / 0.2	MW01 / 4.5	MW02 / 0.2	MW02 / 4.5	
Sample Matrix			Soil	Soil	Soil	Soil	
Eurofins Sample No.			S22-Jn0063789			S22-Jn0063792	
•						İ	
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	
Test/Reference	LOR	Unit					
Per- and Polyfluoroalkyl Substances (PFASs) - Sho	ort						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	< 10	< 10	
13C2-6:2 FTSA (surr.)	1	%	121	90	101	96	
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5	
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	< 5	< 5	< 5	
18O2-PFHxS (surr.)	1	%	109	112	102	105	
13C8-PFOS (surr.)	1	%	103	121	113	108	
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5	
13C8-PFOA (surr.)	1	%	81	105	96	103	
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5	
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5	
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5	
Actual Acidity (NLM-3.2)							
pH-KCL (NLM-3.1)	0.1	pH Units	-	-	8.7	-	
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	-	-	< 2	-	
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	-	-	< 0.003	-	
Potential Acidity - Titratable Peroxide							
pH-OX	0.1	pH Units	-	-	7.7	-	
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S		_	< 0.02	-	
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t		_	< 2	-	
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t		_	< 2	_	
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S		_	< 0.02	-	
Extractable Sulfur	1 0.02	70 P) C			10.02		
Sulfur - KCl Extractable	0.005	% S	_	_	0.015	_	
Peroxide Extractable Sulfur	0.005	% S	_	_	0.032	_	
HCI Extractable Sulfur	0.005	% S	_	_	N/A	_	
Potential Acidity (SPOS)	0.003	70 3	_	_	IN/A	_	
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.02	% S	_	_	< 0.02		
, , , , , , , , , , , , , , , , , , ,	10	mol H+/t		-	11	-	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)  Retained Acidity (S-NAS)	10		-	-	11	-	
	T	T a. a					
Net Acid soluble sulfur (s-SNAS) NLM-4.1 <sup>S02</sup>	0.02	% S	-	-	N/A	-	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	10	mol H+/t		-	N/A	-	
HCI Extractable Sulfur Correction Factor	1	factor	-	-	2.0	-	
Extractable Calcium	1	<u> </u>					
Calcium - KCI Extractable	0.005	% Ca	-	-	0.36	-	
Calcium - Peroxide	0.005	% Ca	-	-	0.55	-	
Calcium - Acid Reacted	0.005	% Ca	-	-	0.20	-	
Calcium - Acid Reacted (s-aCa)	0.005	% S	-	-	0.16	-	
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	99	-	
Extractable Magnesium							
Magnesium - KCI Extractable	0.005	% Mg	-	-	0.018	-	
Magnesium - Peroxide	0.005	% Mg	-	-	0.040	-	
Magnesium - Acid Reacted	0.005	% Mg	-	-	0.022	-	
Magnesium - Acid Reacted (s-aCa)	0.005	% S	-	-	0.029	-	
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	-	-	18	-	
Acid Neutralising Capacity (ANCE)							
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	-	-	1.0	-	
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	-	-	0.33	-	
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	-	-	200	-	



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference		Unit	MW01 / 0.2 Soil S22-Jn0063789 Jun 20, 2022	MW01 / 4.5 Soil S22-Jn0063790 Jun 20, 2022	MW02 / 0.2 Soil S22-Jn0063791 Jun 20, 2022	MW02 / 4.5 Soil S22-Jn0063792 Jun 20, 2022
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	-	-	1.5	-
Net Acidity (Including ANC)		-				
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	-	-	< 10	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	-	-	< 0.02	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	-	-	< 1	-
Extraneous Material						
<2mm Fraction	0.005	g	-	-	14	-
>2mm Fraction	0.005	g	-	-	5.3	-
Analysed Material	0.1	%	-	-	72	-
Extraneous Material	0.1	%	-	-	28	-

Client Sample ID			BH15 / 0.2	BH15 / 2.0	QS01	QS02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0063793	S22-Jn0063794	S22-Jn0063795	S22-Jn0063796
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20. 2022	Jun 20, 2022
Test/Reference	LOR	Unit	, , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,
Tookingloid	1 2011	O i iii				
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	-	-
% Clay	1	%	26	-	-	-
Ammonia (as N)	5	mg/kg	< 5	< 5	-	-
Chloride	10	mg/kg	< 10	17	-	-
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	26	-	-	-
Cyanide (total)	1	mg/kg	< 1	< 1	< 1	< 1
Nitrate & Nitrite (as N)	5	mg/kg	5.4	10	-	-
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	7.1	-	-	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	330	710	-	-
Total Nitrogen (as N)*	10	mg/kg	335.4	720	-	-
Total Organic Carbon	0.1	%	4.7	-	-	-
% Moisture	1	%	18	16	25	22
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	36	69	170
TRH C15-C28	50	mg/kg	< 50	130	660	1200
TRH C29-C36	50	mg/kg	< 50	120	500	1000
TRH C10-C36 (Total)	50	mg/kg	< 50	286	1229	2370
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	150	410
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	150	410
TRH >C16-C34	100	mg/kg	< 100	210	970	1800
TRH >C34-C40	100	mg/kg	< 100	< 100	260	520
TRH >C10-C40 (total)*	100	mg/kg	< 100	210	1380	2730
Volatile Organics						
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	-	-



Client Sample ID			BH15 / 0.2	BH15 / 2.0	QS01	QS02	
Sample Matrix			Soil	Soil	Soil	Soil	
Eurofins Sample No.			S22-Jn0063793	S22-Jn0063794	S22-Jn0063795	S22-Jn0063796	
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	
Test/Reference	LOR	Unit		·	·	,	
BTEX							
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	
4-Bromofluorobenzene (surr.)	1	%	93	86	83	95	
Polycyclic Aromatic Hydrocarbons		,,,					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.6	9.7	< 0.5	
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.9	9.7	0.6	
Benzo(a)pyrene TEQ (inediam bound) *	0.5	mg/kg	1.2	1.2	9.7	1.2	
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	0.9	< 0.5	
Anthracene	0.5	mg/kg	< 0.5	< 0.5	2.8	< 0.5	
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.5	9.1	< 0.5	
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.5	5.9	< 0.5	
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	4.7	< 0.5	
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	0.6	4.1	< 0.5	
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	6.1	< 0.5	
Chrysene	0.5	mg/kg	< 0.5	< 0.5	5.5	< 0.5	
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	1.4	< 0.5	
Fluoranthene	0.5	mg/kg	< 0.5	0.9	16	< 0.5	
Fluorene	0.5	mg/kg	< 0.5	< 0.5	0.9	< 0.5	
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	3.3	< 0.5	
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Phenanthrene	0.5	mg/kg	< 0.5	< 1	8.8	< 0.5	
Pyrene	0.5	mg/kg	< 0.5	1.1	15	< 0.5	
Total PAH*	0.5	mg/kg	< 0.5	3.6	85	< 0.5	
2-Fluorobiphenyl (surr.)	1	%	113	113	107	126	
p-Terphenyl-d14 (surr.)	1	%	124	98	135	119	
Chlorinated Hydrocarbons	I	/0	124	90	133	119	
1.2-Dichlorobenzene	0.5	ma/ka	4 O F	-05	-05	< 0.5	
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5 < 0.5	< 0.5	< 0.5 < 0.5	< 0.5	
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg mg/kg	< 0.5	< 0.5 < 0.5	< 0.5	< 0.5	
1.2.3.5-Tetrachlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5		< 0.5	< 0.5	
	0.5	mg/kg		< 0.5			
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene	0.5	mg/kg	< 0.5 < 0.5	< 0.5	< 0.5 < 0.5	< 0.5 < 0.5	
	0.5	mg/kg		< 0.5			
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Benzal chloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	
Benzotrichloride	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	
Pentachlorobenzene Tetrachloro-m-xylene (surr.)	0.5	mg/kg %	< 0.5	< 0.5	< 0.5	< 0.5	



Client Sample ID			BH15 / 0.2	BH15 / 2.0	QS01	QS02
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			1		S22-Jn0063795	
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	115	92	103	96
Tetrachloro-m-xylene (surr.)	1	%				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	104	85	78	90
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Heavy Metals		T				
Arsenic	2	mg/kg	24	15	16	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.8	< 0.4
Chromium	5	mg/kg	40	31	21	7.7
Copper	5	mg/kg	19	18	48	9.2
Iron	20	mg/kg	58000	-	-	-
Lead	5	mg/kg	49	100	220	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.2	< 0.1
Nickel	5	mg/kg	9.3	12	14	< 5
Zinc	5	mg/kg	77	130	500	40
Heavy Metals		T				
Iron (%)	0.01	%	58	-	-	-
Cation Exchange Capacity	<u> </u>					
Cation Exchange Capacity	0.05	meq/100g	15	-	-	-



Client Sample ID			BH15 / 0.2	BH15 / 2.0	QS01	QS02
Sample Matrix			Soil	Soil	Soil	Soil
•						
Eurofins Sample No.				S22-Jn0063794		
Date Sampled			Jun 20, 2022	Jun 20, 2022	Jun 20, 2022	Jun 20, 2022
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short	t					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	99	122	126	134
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
18O2-PFHxS (surr.)	1	%	106	110	107	61
13C8-PFOS (surr.)	1	%	123	121	108	85
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	5	ug/kg	< 5	< 5	< 5	< 5
13C8-PFOA (surr.)	1	%	100	104	97	54
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	6.5	-	-	-
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	-	-	-
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	-	-	-
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	5.6	-	-	-
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	-	-	-
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	-	-	-
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	-	-	-
Extractable Sulfur						
Sulfur - KCI Extractable	0.005	% S	0.005	-	-	-
Peroxide Extractable Sulfur	0.005	% S	0.022	-	-	-
HCI Extractable Sulfur	0.005	% S	N/A	-	-	-
Potential Acidity (SPOS)		Т				
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.02	% S	< 0.02	-	-	-
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	10	mol H+/t	10	-	-	-
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (s-SNAS) NLM-4.1 <sup>S02</sup>	0.02	% S	N/A	-	-	-
Net Acid soluble sulfur (a-SNAS) NLM-4.1	10	mol H+/t	N/A	-	-	-
HCI Extractable Sulfur Correction Factor	1	factor	2.0	-	-	-
Extractable Calcium						
Calcium - KCI Extractable	0.005	% Ca	0.36	-	-	-
Calcium - Peroxide	0.005	% Ca	0.33	-	-	-
Calcium - Acid Reacted	0.005	% Ca	< 0.005	-	-	-
Calcium - Acid Reacted (s-aCa)	0.005	% S	< 0.005	-	-	-
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	< 0.005	-	-	-
Extractable Magnesium		T a				
Magnesium - KCI Extractable	0.005	% Mg	0.026	-	-	-
Magnesium - Peroxide	0.005	% Mg	0.031	-	-	-
Magnesium - Acid Reacted	0.005	% Mg	0.005	-	-	-
Magnesium - Acid Reacted (s-aCa)	0.005	% S	0.007	-	-	-
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	4.4	-	-	-
Acid Neutralising Capacity (ANCE)	0.00	0, 0, 005	NI/A	_	-	
Asid Noutraliaina Canasity (ANCE)						
Acid Neutralising Capacity - (ANCE) Acid Neutralising Capacity - (s-ANCE)	0.02	% CaCO3	N/A N/A	_	_	



Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			BH15 / 0.2 Soil S22-Jn0063793 Jun 20, 2022	BH15 / 2.0 Soil S22-Jn0063794 Jun 20, 2022	QS01 Soil S22-Jn0063795 Jun 20, 2022	QS02 Soil S22-Jn0063796 Jun 20, 2022
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	-	-	-
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10	-	-	-
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02	-	-	-
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1	-	-	-
Extraneous Material						
<2mm Fraction	0.005	g	9.7	-	-	-
>2mm Fraction	0.005	g	5.6	-	-	-
Analysed Material	0.1	%	63	-	-	-
Extraneous Material	0.1	%	37	-	-	-



#### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description 2 Proposes (Acetone)	Testing Site Melbourne	Extracted	Holding Time
2-Propanone (Acetone)	Meibourne	Jun 30, 2022	14 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices Ammonia (as N)	Sydney	Jun 29, 2022	28 Days
- Method: LTM-INO-4200 Ammonia by Discrete Analyser	0.1		00 B
Chloride	Sydney	Jun 29, 2022	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography	Overland	l 00, 0000	00 D
Chromium (hexavalent)	Sydney	Jun 29, 2022	28 Days
- Method: In-house method E057.2	Overland	l 00, 0000	44 Davis
Cyanide (total)	Sydney	Jun 29, 2022	14 Days
- Method: E054 Total Cyanide	Mallaguna	l 20, 2000	7 Davis
Volatile Organics	Melbourne	Jun 30, 2022	7 Days
- Method: USEPA 8260 - MGT 350A Volatile Organics by GCMS  Chlorinated Hydrogorhapa	Melbourne	lup 20, 2022	14 Dovo
Chlorinated Hydrocarbons	Melbourne	Jun 30, 2022	14 Days
- Method: USEPA 8121 Chlorinated Hydrocarbons  Polychlorinated Riphonyls	Sydney	Jun 29, 2022	28 Days
Polychlorinated Biphenyls  - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Juli 29, 2022	20 Days
Per- and Polyfluoroalkyl Substances (PFASs) - Short	Brisbane	Jun 30, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Diisbane	Juli 30, 2022	20 Days
NEPM Screen for Soil Classification			
% Clay	Brisbane	Jun 30, 2022	14 Days
- Method: LTM-GEN-7040	Briobario	0011 00, 2022	11 Dayo
Conductivity (1:5 aqueous extract at 25°C as rec.)	Sydney	Jun 29, 2022	7 Days
- Method: LTM-INO-4030 Conductivity	-,,		, -
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	Sydney	Jun 29, 2022	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			·
Total Organic Carbon	Melbourne	Jun 30, 2022	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			-
Heavy Metals	Sydney	Jun 29, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Cation Exchange Capacity	Melbourne	Jun 30, 2022	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Jun 30, 2022	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Jun 30, 2022	28 Days
- Method: APHA 4500-Norg B,D Total Kjeldahl Nitrogen by FIA			
% Moisture	Sydney	Jun 28, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jun 29, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40	0.1		445
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 29, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40	Condense	l 00 0000	4.4 Davis
BTEX	Sydney	Jun 29, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH  Total Page variable, Hydrogorbane, 2012 NEDM Fractions	Sydnov	lun 20, 2022	14 Dovo
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 29, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40  Polycyclic Aromatic Hydrocarbons	Sydney	Jun 29, 2022	14 Days
Polycyclic Aromatic Hydrocarbons  - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Syuriey	JUII 23, 2022	14 Days
Phenols (Halogenated)	Sydney	Jun 29, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydiley	Juli 20, 2022	17 Days
Phenols (non-Halogenated)	Sydney	Jun 29, 2022	14 Days
(	J, 4110,	Juli 20, 2022	20,0



Description	Testing Site	Extracted	<b>Holding Time</b>
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Jun 29, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
SPOCAS Suite			
SPOCAS Suite	Brisbane	Jun 30, 2022	6 Week
- Method: LTM-GEN-7050			
Extraneous Material	Brisbane	Jun 30, 2022	6 Week
- Method: LTM-GEN-7050/7070			



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#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

ABN: 50 005 085 521

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Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400

Canberra Unit 1.2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 Brisbane Newcastle 1/21 Smallwood Place 4/52 Industrial Drive Murarrie Mayfield East NSW 2304 PO Box 60 Wickham 2293 QLD 4172 Tel: +61 7 3902 4600 Tel: +61 2 4968 8448 NATA# 1261 Site# 20794 NATA# 1261 Site# 25079

ABN: 91 05 0159 898

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370 Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

Address:

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

20220303 Order No.: Report #: 901484

Phone: 1800 234 897 02 9911 4001 Fax:

Received: Jun 22, 2022 2:47 PM Due: Jul 4, 2022

Priority: 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303

**Eurofins Analytical Services Manager: Asim Khan** 

**Eurofins ARL Pty Ltd Eurofins Environment Testing NZ Ltd** 

35 O'Rorke Road

Tel: +64 9 526 45 51

Auckland 1061

IANZ# 1327

Auckland

Penrose,

NZBN: 9429046024954

Sample Detail						2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Melk	ourne Laborato	ory - NATA # 12	61 Site # 12	54		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261	Site # 18217	7				Х	Х	Х	Х	Х	Х		Χ	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 126	1 Site # 2079	94													Х		Х			Х
Exte	rnal Laboratory			1																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	BH01 / 0.2	Jun 20, 2022		Soil	S22-Jn0063769	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Χ
2	BH02 / 0.2	Jun 20, 2022		Soil	S22-Jn0063770	Χ	Х	Х	Х	Х	Х	Х		Χ	Χ	Х		Х	Х	Х		Х
3	BH03 / 0.2	Jun 20, 2022		Soil	S22-Jn0063771	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Χ
4	BH04 / 0.2	Jun 20, 2022		Soil	S22-Jn0063772	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Х
5	BH05 / 0.2	Jun 20, 2022		Soil	S22-Jn0063773	Х	Х	Х	Х	Х	Х	Х		Χ	Χ	Х		Х	Х	Х		Х
6	BH06 / 0.2	Jun 20, 2022		Soil	S22-Jn0063774	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Х
7	BH07 / 0.2	Jun 20, 2022		Soil	S22-Jn0063775	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Х
8	BH08/ 0.2	Jun 20, 2022		Soil	S22-Jn0063776	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Х
9	BH09 / 0.2	Jun 20, 2022		Soil	S22-Jn0063777	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Х
10	BH10 / 0.2	Jun 20, 2022		Soil	S22-Jn0063778	Х	Х	Х	Х	Х	Х	Х		Х	Χ	Х		Х	Х	Х		Χ
11	BH11 / 0.2	Jun 20, 2022		Soil	S22-Jn0063779	Χ	Х	Х	Χ	Χ	Х	Х		Χ	Χ	Х		Χ	Х	Х		Х



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#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

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> Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

Address:

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

Order No.: 20220303 Report #: 901484

Phone: 1800 234 897 Fax:

02 9911 4001

Received: Jun 22, 2022 2:47 PM Due: Jul 4, 2022

**Priority:** 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

20220303 Project ID:

**Eurofins Analytical Services Manager: Asim Khan** 

		Sam	ple Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	oourne Laborate	ory - NATA # 1261	Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Si	te # 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
		y - NATA # 1261 S														Х		Х			Х
12	BH11 / 2.5	Jun 20, 2022	Soil	S22-Jn0063780						Х	Х		Х				Х		Х		$\vdash$
13	BH12 / 0.2	Jun 20, 2022	Soil	S22-Jn0063781	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
14	BH12 / 2.5	Jun 20, 2022	Soil	S22-Jn0063782						X	Х		Х				Х		Х		
15	BH13 / 0.2	Jun 20, 2022	Soil	S22-Jn0063783	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
16	BH13 / 2.5	Jun 20, 2022	Soil	S22-Jn0063784						Х	Х		Х				Х		Х		$\vdash$
17	BH14 / 0.2	Jun 20, 2022	Soil	S22-Jn0063785	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
18	BH14 / 1.0	Jun 20, 2022	Soil	S22-Jn0063786						Х	Х		Х				Х		Х		$\vdash$
19	MW03 / 0.2	Jun 20, 2022	Soil	S22-Jn0063787	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
20	MW03 / 4.5	Jun 20, 2022	Soil	S22-Jn0063788						Х	Х		Х				Х		Х		
21	MW01 / 0.2	Jun 20, 2022	Soil	S22-Jn0063789	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
22	MW01 / 4.5	Jun 20, 2022	Soil	S22-Jn0063790	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
23	MW02 / 0.2	Jun 20, 2022	Soil	S22-Jn0063791	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
24	MW02 / 4.5	Jun 20, 2022	Soil	S22-Jn0063792	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
25	BH15 / 0.2	Jun 20, 2022	Soil	S22-Jn0063793	Х	Х	Х	Χ	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х



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#### **Eurofins Environment Testing Australia Pty Ltd**

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Phone: Fax:

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Brisbane

Murarrie

QLD 4172

Tel: +61 7 3902 4600

Due: Jul 4, 2022 **Priority:** 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

																					ıcaı 5e
Sample Detail  Melbourne Laboratory - NATA # 1261 Site # 1254  Sydney Laboratory - NATA # 1261 Site # 18217							Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	ourne Laborat	ory - NATA # 1261 S	ite # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Site	# 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 1261 Sit	e # 20794													Х		Х			Х
26	BH15 / 2.0	Jun 20, 2022	Soil	S22-Jn0063794	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
27	QS01	Jun 20, 2022	Soil	S22-Jn0063795						Х	X		Х	Х			Х		Х		Х
28	QS02	Jun 20, 2022	Soil	S22-Jn0063796						Х	X		Х	Х			Х		Х		Х
29	TB01	Jun 20, 2022	Water	S22-Jn0063797																X	
30	TB02	Jun 20, 2022	Water	S22-Jn0063798																X	
31	RB01	Jun 20, 2022	Water	S22-Jn0063799																Х	
32	RB02	Jun 20, 2022	Water	S22-Jn0063800																Х	
33	MW01 / 1.5	Jun 20, 2022	Soil	S22-Jn0063801								Х									
34	TS01	Jun 20, 2022	Water	S22-Jn0065102								Х									
35	TS02	Jun 20, 2022	Water	S22-Jn0065103								Х									
Tes	Counts				21	21	21	18	21	28	28	3	28	23	21	5	28	18	28	4	23



#### **Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis.
- 8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 9. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram mg/L: micrograms per litre µg/L: micrograms per litre

org/100 mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100 mL: Most Probable Number of organisms per 100 millilitres

#### **Terms**

APHA American Public Health Association

COC Chain of Custody

CP Client Parent - QC was performed on samples pertaining to this report
CRM Certified Reference Material (ISO17034) - reported as percent recovery.

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

LOR Limit of Reporting.

Laboratory Control Sample - reported as percent recovery.

Method Blank

In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

NCP

Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

SPIKE Addition of the analyte to the sample and reported as percentage recovery

SRA Sample Receipt Advice

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

TBTO Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured

and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.

TCLP Toxicity Characteristic Leaching Procedure
TEQ Toxic Equivalency Quotient or Total Equivalence

QSM US Department of Defense Quality Systems Manual Version 5.4

US EPA United States Environmental Protection Agency

WA DWER Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

#### QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30% NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

#### **QC Data General Comments**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 901484-S



#### **Quality Control Results**

Test	Units	Result 1	Accepta Limit	nce Pass Limits	Qualifying Code
Method Blank					
2-Propanone (Acetone)	mg/kg	< 0.5	0.5	Pass	
Ammonia (as N)	mg/kg	< 5	5	Pass	
Chloride	mg/kg	< 10	10	Pass	
Chromium (hexavalent)	mg/kg	< 1	1	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10	10	Pass	
Cyanide (total)	mg/kg	< 1	1	Pass	
Total Organic Carbon	%	< 0.1	0.1	Pass	
Method Blank					
Total Recoverable Hydrocarbons					
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank	1 3 3				
Volatile Organics					
2-Butanone (MEK)	mg/kg	< 0.5	0.5	Pass	
Method Blank	1 3 3				
BTEX					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3	0.3	Pass	
Method Blank	1 3 3				
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Total PAH*	mg/kg	-	0.5	N/A	
Method Blank	ı myrky		1 0.0	14//1	
Chlorinated Hydrocarbons					
1.2-Dichlorobenzene	mg/kg	< 0.5	0.5	Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
1.2.3-Trichlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.2.3.4-Tetrachlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.2.3.5-Tetrachlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.2.4.5-Tetrachlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.3.5-Trichlorobenzene	mg/kg	< 0.5	0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5	0.5	Pass	
Benzal chloride	mg/kg	< 0.05	0.05	Pass	
Benzotrichloride	mg/kg	< 0.05	0.05	Pass	
Benzyl chloride	mg/kg	< 0.5	0.5	Pass	
Hexachlorobenzene	mg/kg	< 0.5	0.5	Pass	
Hexachlorobutadiene	mg/kg	< 0.5	0.5	Pass	
Hexachlorocyclopentadiene	mg/kg	< 0.5	0.5	Pass	
Hexachloroethane	mg/kg	< 0.5	0.5	Pass	
Pentachlorobenzene	mg/kg	< 0.5	0.5	Pass	
Method Blank					
Polychlorinated Biphenyls					
Aroclor-1016	mg/kg	< 0.1	0.1	Pass	
Aroclor-1221	mg/kg	< 0.1	0.1	Pass	
Aroclor-1232	mg/kg	< 0.1	0.1	Pass	
Aroclor-1242	mg/kg	< 0.1	0.1	Pass	
Aroclor-1248	mg/kg	< 0.1	0.1	Pass	
Aroclor-1254	mg/kg	< 0.1	0.1	Pass	
Aroclor-1260	mg/kg	< 0.1	0.1	Pass	
Total PCB*	mg/kg	< 0.1	0.1	Pass	
Method Blank					
Phenols (Halogenated)					
2-Chlorophenol	mg/kg	< 0.5	0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5	0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1	1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1	1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5	0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1	1	Pass	
Pentachlorophenol	mg/kg	< 1	1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10	10	Pass	
Method Blank		T T	<u> </u>	ı	
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20	20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5	5	Pass	
2-Nitrophenol	mg/kg	< 1	1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5	0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5	5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2	0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4	0.4	Pass	
4-Nitrophenol	mg/kg	< 5	5	Pass	
Dinoseb	mg/kg	< 20	20	Pass	
Phenol	mg/kg	< 0.5	0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0	20	Pass	
Method Blank					
		1 1			
Heavy Metals	ı				
Arsenic	mg/kg	< 2	2	Pass	
	mg/kg mg/kg mg/kg	< 2 < 0.4 < 5	2 0.4 5	Pass Pass Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Copper	mg/kg	< 5	5	Pass	
Iron	mg/kg	< 20	20	Pass	
Lead	mg/kg	< 5	5	Pass	
Mercury	mg/kg	< 0.1	0.1	Pass	
Nickel	mg/kg	< 5	5	Pass	
Zinc	mg/kg	< 5	5	Pass	
Method Blank				•	
Cation Exchange Capacity					
Cation Exchange Capacity	meg/100g	< 0.05	0.05	Pass	
Method Blank	1 1 3	•			
Per- and Polyfluoroalkyl Substances (PFASs) - Short					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10	10	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5	5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5	5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5	5	Pass	
LCS - % Recovery	ug/kg	\		1 433	
% Clay	%	125	70-130	Pass	
		101			
Ammonia (as N)	%		70-130	Pass	
Chloride Characterity	%	105	70-130	Pass	
Chromium (hexavalent)	%	93	70-130	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	%	93	70-130	Pass	
Cyanide (total)	%	105	70-130	Pass	
Total Kjeldahl Nitrogen (as N)	%	78	70-130	Pass	
Total Organic Carbon	%	98	70-130	Pass	
LCS - % Recovery				T	
Total Recoverable Hydrocarbons					
TRH C6-C9	%	84	70-130	Pass	
TRH C10-C14	%	105	70-130	Pass	
Naphthalene	%	80	70-130	Pass	
TRH C6-C10	%	82	70-130	Pass	
TRH >C10-C16	%	101	70-130	Pass	
LCS - % Recovery					
BTEX					
Benzene	%	92	70-130	Pass	
Toluene	%	91	70-130	Pass	
Ethylbenzene	%	87	70-130	Pass	
m&p-Xylenes	%	88	70-130	Pass	
o-Xylene	%	87	70-130	Pass	
Xylenes - Total*	%	87	70-130	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	%	99	70-130	Pass	
Acenaphthylene	%	103	70-130	Pass	
Anthracene	%	108	70-130	Pass	
Benz(a)anthracene	%	102	70-130	Pass	
Benzo(a)pyrene	%	105	70-130	Pass	
Benzo(b&j)fluoranthene	%	96	70-130	Pass	
Benzo(g.h.i)perylene	%	105	70-130	Pass	
Benzo(k)fluoranthene	%	120	70-130	Pass	
Chrysene	%	104	70-130	Pass	
Dibenz(a.h)anthracene	%	97	70-130	Pass	
Fluoranthene	%	102	70-130	Pass	
Fluorene	%	100	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	98	70-130	Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	97	70-130	Pass	
Phenanthrene	%	103	70-130	Pass	
Pyrene	%	98	70-130	Pass	
LCS - % Recovery					
Polychlorinated Biphenyls					
Aroclor-1016	%	94	70-130	Pass	
Aroclor-1260	%	90	70-130	Pass	
LCS - % Recovery		<u>'</u>			
Phenols (Halogenated)					
2-Chlorophenol	%	101	25-140	Pass	
2.4-Dichlorophenol	%	103	25-140	Pass	
2.4.5-Trichlorophenol	%	95	25-140	Pass	
2.4.6-Trichlorophenol	%	92	25-140	Pass	
2.6-Dichlorophenol	%	99	25-140	Pass	
4-Chloro-3-methylphenol	%	103	25-140	Pass	
Tetrachlorophenols - Total	%	73	25-140	Pass	
LCS - % Recovery	/0		1 20-140	1 433	
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	%	77	25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	94	25-140	Pass	
2-Nitrophenol	%	105			
<u> </u>	%	100	25-140	Pass	
2.4-Dimethylphenol			25-140	Pass	
2.4-Dinitrophenol	%	87	25-140	Pass	
2-Methylphenol (o-Cresol)	%	102	25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	105	25-140	Pass	
4-Nitrophenol	%	94	25-140	Pass	
Dinoseb	%	72	25-140	Pass	
Phenol	%	103	25-140	Pass	
LCS - % Recovery		Т	T		
Heavy Metals				_	
Arsenic	%	96	80-120	Pass	
Cadmium	%	97	80-120	Pass	
Chromium	%	100	80-120	Pass	
Copper	%	101	80-120	Pass	
Iron	%	99	80-120	Pass	
Lead	%	99	80-120	Pass	
Mercury	%	117	80-120	Pass	
Nickel	%	96	80-120	Pass	
Zinc	%	97	80-120	Pass	
LCS - % Recovery					
Per- and Polyfluoroalkyl Substances (PFASs) - Short					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	113	50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	94	50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	89	50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	94	50-150	Pass	
LCS - % Recovery					
Actual Acidity (NLM-3.2)					
pH-KCL (NLM-3.1)	%	97	80-120	Pass	
Titratable Actual Acidity (NLM-3.2)	%	101	80-120	Pass	



Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery		Jource			Lillits	Lillits	Code
Opine - 70 Necovery				Result 1			
Chloride	S22-Jn0061621	NCP	%	105	70-130	Pass	
Spike - % Recovery	322-3110001021	INCI	/0	103	70-130	1 033	
Total Recoverable Hydrocarbons				Result 1			
Naphthalene	N22-Jn0051821	NCP	%	78	70-130	Pass	
Spike - % Recovery	1422-3110031021	NCF	/0	76	70-130	газэ	
Chlorinated Hydrocarbons				Result 1			
Hexachlorobenzene	M22-Jn0069503	NCP	%	89	70-130	Pass	
	10122-3110069303	NCF	70	09	70-130	rass	
Spike - % Recovery				Dogult 1			
Heavy Metals	C00 I=0004 407	NOD	0/	Result 1	75.405	Dana	
Copper	S22-Jn0061427	NCP	%	84	75-125	Pass	
Lead	S22-Jn0061427	NCP	%	86	75-125	Pass	
Spike - % Recovery				I 5 1/4 I			
A	000 1:0000777	05	0′	Result 1	70.465	D-	
Ammonia (as N)	S22-Jn0063770	CP	%	96	70-130	Pass	
Cyanide (total)	S22-Jn0063770	CP	%	105	70-130	Pass	
Spike - % Recovery							
Total Recoverable Hydrocarbons	T			Result 1			
TRH C6-C9	S22-Jn0063770	CP	%	72	70-130	Pass	
TRH C6-C10	S22-Jn0063770	CP	%	71	70-130	Pass	
Spike - % Recovery							
BTEX				Result 1			
Benzene	S22-Jn0063770	CP	%	70	70-130	Pass	
Toluene	S22-Jn0063770	CP	%	73	70-130	Pass	
Ethylbenzene	S22-Jn0063770	CP	%	76	70-130	Pass	
m&p-Xylenes	S22-Jn0063770	CP	%	76	70-130	Pass	
o-Xylene	S22-Jn0063770	CP	%	80	70-130	Pass	
Xylenes - Total*	S22-Jn0063770	CP	%	78	70-130	Pass	
Spike - % Recovery							
Heavy Metals				Result 1			
Arsenic	S22-Jn0063770	CP	%	118	75-125	Pass	
Cadmium	S22-Jn0063770	CP	%	121	75-125	Pass	
Nickel	S22-Jn0063770	CP	%	118	75-125	Pass	
Spike - % Recovery							
Per- and Polyfluoroalkyl Substan	ces (PFASs) - Shor	t		Result 1			
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0063772	СР	%	99	50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0063772	СР	%	83	50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0063772	СР	%	82	50-150	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0063772	CP	%	101	50-150	Pass	
Spike - % Recovery	, , , , , , , , , , , , , , , , , , , ,				, 50.30		
				Result 1			
Chromium (hexavalent)	S22-Jn0063779	СР	%	88	70-130	Pass	
Spike - % Recovery	, 522 55555.75	<u> </u>	,,		, , , , , , , ,	. 200	
Total Recoverable Hydrocarbons				Result 1			
TRH C10-C14	S22-Jn0063780	СР	%	117	70-130	Pass	
TRH >C10-C16	S22-Jn0063780	CP	<del>//</del> 6	112	70-130	Pass	
Spike - % Recovery	1 322 0110003700	51	/0	114	1 70-130	1 433	
Heavy Metals				Result 1			
Cadmium	S22-Jn0063780	СР	%	104	75-125	Pass	
Chromium	S22-Jn0063780	CP	<del>%</del>	104			
		CP			75-125 75-125	Pass	
Mercury	S22-Jn0063780	UP	%	101	75-125	Pass	ļ



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	S22-Jn0063780	СР	%	77			75-125	Pass	
Zinc	S22-Jn0063780	СР	%	81			75-125	Pass	
Spike - % Recovery									
•				Result 1					
Ammonia (as N)	S22-Jn0063787	СР	%	96			70-130	Pass	
Spike - % Recovery				,	,				
•				Result 1					
Cyanide (total)	S22-Jn0063793	СР	%	96			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
•				Result 1	Result 2	RPD			
2-Propanone (Acetone)	M22-Jn0066345	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
% Clay	R22-Jn0019599	NCP	%	16	16	<1	30%	Pass	
Ammonia (as N)	S22-Jn0063769	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Chromium (hexavalent)	S22-Jn0063769	CP	mg/kg	<1	< 1	<1	30%	Pass	
Conductivity (1:5 aqueous extract	322 313333733		g/Ng	7	7 1	31	3370	. 400	
at 25°C as rec.)	S22-Jn0063769	CP	uS/cm	31	32	3.8	30%	Pass	
Cyanide (total)	S22-Jn0063769	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Total Kjeldahl Nitrogen (as N)	M22-Jn0069707	NCP	mg/kg	45	47	4.5	30%	Pass	
Total Organic Carbon	S22-Jn0063769	СР	%	5.2	5.3	2.9	30%	Pass	
% Moisture	S22-Jn0063769	СР	%	24	25	3.5	30%	Pass	
Duplicate				•					
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Jn0063769	СР	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S22-Jn0063769	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Jn0063769	СР	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate							22.12		
Volatile Organics				Result 1	Result 2	RPD			
2-Butanone (MEK)	M22-Jn0066345	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate							22.12		
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Jn0063769	СР	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Jn0063769	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Jn0063769	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Jn0063769	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Jn0063769	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Jn0063769	CP	mg/kg	< 0.1	< 0.3	<1	30%	Pass	
Duplicate	022 0110003703	OI .	mg/kg	\ 0.5	V 0.0		3070	1 433	
Polycyclic Aromatic Hydrocarbons	•			Result 1	Result 2	RPD			
Acenaphthene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
	S22-Jn0057979	NCP		i	1		30%		
Benz(a)anthracene			mg/kg	< 0.5	< 0.5	<1		Pass	
Benzo(a)pyrene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S22-Jn0057979	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



Duplicate									
Chlorinated Hydrocarbons				Result 1	Result 2	RPD			
1.2-Dichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzal chloride	M22-Jn0063871	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Benzotrichloride	M22-Jn0063871	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Benzyl chloride	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobutadiene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorocyclopentadiene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachloroethane	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pentachlorobenzene	M22-Jn0063871	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate					, , , , , ,				
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S22-Jn0065889	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate	022 00000000			1011	, , , , ,	**	3070	. 455	
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S22-Jn0065889	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	S22-Jn0065889	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	S22-Jn0065889	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S22-Jn0065889	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S22-Jn0065889	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	S22-Jn0065889	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	S22-Jn0065889	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	S22-Jn0065889	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S22-Jn0065889	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S22-Jn0065889	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	S22-Jn0065889	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	S22-Jn0065889	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S22-Jn0065889	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S22-Jn0065889	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S22-Jn0065889	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	S22-Jn0065889	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	S22-Jn0065889	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	S22-Jn0065889	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Cadmium	S22-Jn0063769	CP	mg/kg	0.8	0.8	3.0	30%	Pass	
Chromium	S22-Jn0063769	CP	mg/kg	29	31	6.0	30%	Pass	
Iron	S22-Jn0063769	СР	mg/kg	61000	41000	38	30%	Fail	Q15
Lead	S22-Jn0063769	СР	mg/kg	310	340	11	30%	Pass	
Mercury	S22-Jn0063769	СР	mg/kg	0.3	0.4	33	30%	Fail	Q15
Nickel	S22-Jn0063769	CP	mg/kg	45	9.9	130	30%	Fail	Q15
Zinc	S22-Jn0063769	CP	mg/kg	600	560	8.0	30%	Pass	
Duplicate									
·				Result 1	Result 2	RPD			
Chromium (hexavalent)	S22-Jn0063772	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate							_		
Per- and Polyfluoroalkyl Substance	es (PFASs) - Short			Result 1	Result 2	RPD			
1H.1H.2H.2H-									
perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0063773	СР	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0063773	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0063773	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0063773	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Jn0063775	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S22-Jn0063775	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Jn0063775	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S22-Jn0063775	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Iron	S22-Jn0063775	CP	mg/kg	1000	700	39	30%	Fail	Q15
Lead	S22-Jn0063775	СР	mg/kg	6.2	5.2	19	30%	Pass	
Mercury	S22-Jn0063775	СР	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Jn0063775	СР	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S22-Jn0063775	CP	mg/kg	13	12	10	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substance	es (PFASs) - Short	:		Result 1	Result 2	RPD			
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0063775	СР	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0063775	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0063775	CP CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0063775	CP CP	ug/kg ug/kg	< 5 < 5	< 5 < 5	<u>&lt;1</u> <1	30%	Pass	
Duplicate	322 0110003773	OI .	ug/kg				30 /0	1 033	
Daphoato				Result 1	Result 2	RPD			
Total Organic Carbon	S22-Jn0063778	CP	%	4.9	3.3	40	30%	Fail	Q15
Duplicate	J22-J110003//6	UP .	/0	4.3	J.J	40	30 /0	Fall	પાંગ
Dupilicate				Result 1	Result 2	RPD			
% Moisture	S22-Jn0063779	CP	%	18	19	2.8	30%	Pass	
Duplicate	022-3110003779	UP .	/0	10	13	2.0	30 /0	1 433	
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
	922 In0062770	CD	ma/ka				200/	Booo	
TRH C6-C9	\$22-Jn0063779	CP CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C14	\$22-Jn0063779	CP CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S22-Jn0063779	CP CD	mg/kg	64	62	4.0	30%	Pass	
TRH C29-C36	S22-Jn0063779	CP CD	mg/kg	74	70	6.0	30%	Pass	
Naphthalene	S22-Jn0063779	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Jn0063779	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S22-Jn0063779	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Jn0063779	CP	mg/kg	120	110	5.0	30%	Pass	
TRH >C34-C40	S22-Jn0063779	CP	mg/kg	< 100	< 100	<1	30%	Pass	



Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Jn0063779	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Jn0063779	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Jn0063779	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Jn0063779	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Jn0063779	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Jn0063779	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate	022 0110000770	Oi	ilig/kg	V 0.0	\ 0.0		0070	1 455	
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Jn0063779	CP	mg/kg	14	13	6.0	30%	Pass	
Cadmium	S22-Jn0063779	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Jn0063779	CP	mg/kg	30	27	13	30%	Pass	
Copper	S22-Jn0063779	CP	mg/kg	21	32	42	30%	Fail	Q15
Iron	S22-Jn0063779	CP	mg/kg	37000	59000	46	30%	Fail	Q15
Lead	S22-Jn0063779	CP	mg/kg	63	66	4.0	30%	Pass	Q.10
Mercury	S22-Jn0063779	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Jn0063779	CP	mg/kg	6.8	6.0	12	30%	Pass	
Zinc	S22-Jn0063779	CP	mg/kg	70	69	2.0	30%	Pass	
Duplicate	1 522 5115000775		,g/.\g			2.0	0070	1 400	
Dapinoato				Result 1	Result 2	RPD			
Chloride	S22-Jn0063781	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Conductivity (1:5 aqueous extract	022 0110000101	<u> </u>	mg/kg	V 10	1.0	- ''	0070	1 400	
at 25°C as rec.)	S22-Jn0063781	CP	uS/cm	48	53	10	30%	Pass	
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	S22-Jn0063781	CP	pH Units	8.3	8.4	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	S22-Jn0063781	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	S22-Jn0063781	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate					, ,				
Potential Acidity - Titratable Perox	kide			Result 1	Result 2	RPD			
pH-OX	S22-Jn0063781	CP	pH Units	8.1	8.1	<1	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	S22-Jn0063781	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	S22-Jn0063781	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	S22-Jn0063781	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	S22-Jn0063781	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate					1				
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	S22-Jn0063781	CP	% S	0.006	0.006	6.0	30%	Pass	
Peroxide Extractable Sulfur	S22-Jn0063781	CP	% S	0.016	0.016	3.9	20%	Pass	
HCI Extractable Sulfur	S22-Jn0063781	CP	% S	N/A	N/A	<1	20%	Pass	
Duplicate					,				
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s- SPOS) (NLM 2.2)	S22-Jn0063781	СР	% S	< 0.02	< 0.02	<1	30%	Pass	
Peroxide Oxidisable Sulfur (a- SPOS) (NLM 2.2)	S22-Jn0063781	СР	mol H+/t	< 10	< 10	<1	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (s-SNAS) NLM-4.1	S22-Jn0063781	СР	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	S22-Jn0063781	СР	mol H+/t	N/A	N/A	N/A	30%	Pass	



Duplicate					_		I		
Extractable Calcium	 			Result 1	Result 2	RPD			
Calcium - KCI Extractable	S22-Jn0063781	CP	% Ca	0.41	0.41	<1	30%	Pass	
Calcium - Peroxide	S22-Jn0063781	CP	% Ca	0.63	0.62	<1	20%	Pass	
Calcium - Acid Reacted	S22-Jn0063781	CP	% Ca	0.22	0.21	<1	30%	Pass	
Calcium - Acid Reacted (s-aCa)	S22-Jn0063781	CP	% S	0.17	0.17	<1	30%	Pass	
Calcium - Acid Reacted (a-aCa)	S22-Jn0063781	CP	mol H+/t	110	110	<1	30%	Pass	
Duplicate							ı		
Extractable Magnesium	г т			Result 1	Result 2	RPD			
Magnesium - KCl Extractable	S22-Jn0063781	CP	% Mg	0.023	0.023	1.4	30%	Pass	
Magnesium - Peroxide	S22-Jn0063781	CP	% Mg	0.041	0.040	1.0	20%	Pass	
Magnesium - Acid Reacted	S22-Jn0063781	CP	% Mg	0.018	0.018	<1	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	S22-Jn0063781	CP	% S	0.023	0.023	<1	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	S22-Jn0063781	CP	mol H+/t	14	14	<1	30%	Pass	
Duplicate							1		
Acid Neutralising Capacity (ANCE)	· · · · · · · · · · · · · · · · · · ·		1	Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	S22-Jn0063781	СР	% CaCO3	1.1	1.1	2.2	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	S22-Jn0063781	СР	mol H+/t	230	220	2.2	30%	Pass	
Duplicate							1		
Acid Neutralising Capacity (ANCbt	)		1	Result 1	Result 2	RPD			
ANC Fineness Factor	S22-Jn0063781	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate							ı		
Net Acidity (Including ANC)	· · · · · · · · · · · · · · · · · · ·		1	Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	S22-Jn0063781	СР	mol H+/t	< 10	< 10	<1	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	S22-Jn0063781	СР	% S	< 0.02	< 0.02	<1	30%	Pass	
SPOCAS - Liming rate - ASSMAC	S22-Jn0063781	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S22-Jn0063785	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S22-Jn0063789	CP	%	19	18	6.8	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Jn0063789	СР	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S22-Jn0063789	СР	mg/kg	28	30	6.0	30%	Pass	
TRH C15-C28	S22-Jn0063789	СР	mg/kg	130	120	4.0	30%	Pass	
TRH C29-C36	S22-Jn0063789	СР	mg/kg	250	210	19	30%	Pass	
Naphthalene	S22-Jn0063789	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Jn0063789	СР	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S22-Jn0063789	СР	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Jn0063789	СР	mg/kg	300	260	14	30%	Pass	
TRH >C34-C40	S22-Jn0063789	СР	mg/kg	130	120	13	30%	Pass	
Duplicate									
втех				Result 1	Result 2	RPD			
Benzene	S22-Jn0063789	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Jn0063789	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Jn0063789	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Jn0063789	СР	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Jn0063789	СР	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Jn0063789	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Jn0063789	СР	mg/kg	18	14	26	30%	Pass	
Cadmium	S22-Jn0063789	СР	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Jn0063789	CP	mg/kg	24	20	18	30%	Pass	
Copper	S22-Jn0063789	CP	mg/kg	17	19	9.2	30%	Pass	
Iron	S22-Jn0063789	CP	mg/kg	40000	34000	18	30%	Pass	
Lead	S22-Jn0063789	CP	mg/kg	52	49	6.6	30%	Pass	
Mercury	S22-Jn0063789	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Jn0063789	CP	mg/kg	7.9	8.4	6.2	30%	Pass	
Zinc	S22-Jn0063789	CP	mg/kg	78	82	4.3	30%	Pass	
Duplicate									<u> </u>
				Result 1	Result 2	RPD			
Chromium (hexavalent)	S22-Jn0063791	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	S22-Jn0063792	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S22-Jn0063794	CP	mg/kg	17	16	12	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S22-Jn0063794	CP	mg/kg	36	< 20	57	30%	Fail	Q15
TRH C15-C28	S22-Jn0063794	CP	mg/kg	130	76	51	30%	Fail	Q15
TRH C29-C36	S22-Jn0063794	CP	mg/kg	120	66	56	30%	Fail	Q15
TRH >C10-C16	S22-Jn0063794	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Jn0063794	CP	mg/kg	210	120	55	30%	Fail	Q15
TRH >C34-C40	S22-Jn0063794	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short			Result 1	Result 2	RPD				
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0063795	СР	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0063795	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0063795	СР	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0063795	CP	ug/kg	< 5	< 5	<1	30%	Pass	



#### Comments

#### Sample Integrity

Custody Seals Intact (if used) N/A Attempt to Chill was evident Yes Sample correctly preserved Yes Appropriate sample containers have been used Nο Sample containers for volatile analysis received with minimal headspace Yes Samples received within HoldingTime Yes Some samples have been subcontracted No

#### **Qualifier Codes/Comments**

Code	Description
Coue	Description

G01 The LORs have been raised due to matrix interference

F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).

N01

Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed

all QAQC acceptance criteria, and are entirely technically valid.

F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. N04

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to N07

Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. N11

The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report. Q15

S02 Retained Acidity is Reported when the pHKCl is less than pH 4.5

#### Authorised by:

N02

Robert Biviano Analytical Services Manager Scott Beddoes Senior Analyst-Metal Dilani Samarakoon Senior Analyst-Inorganic Sayeed Abu Senior Analyst-Asbestos Chamath JHM Annakkage Senior Analyst-Asbestos Gabriele Cordero Senior Analyst-Metal Caitlin Breeze Senior Analyst-Inorganic Roopesh Rangarajan Senior Analyst-Volatile Joseph Edouard Senior Analyst-Volatile Roopesh Rangaraian Senior Analyst-Organic Mary Makarios Senior Analyst-Inorganic Joseph Edouard Senior Analyst-Organic Edward Lee Senior Analyst-Organic Jonathon Angell Senior Analyst-Inorganic Jonathon Angell Senior Analyst-PFAS Charl Du Preez Senior Analyst-Organic Rvan Phillips Senior Analyst-Inorganic Harry Bacalis Senior Analyst-Volatile Scott Beddoes Senior Analyst-Inorganic



**General Manager** 

Final Report - this report replaces any previously issued Report

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Report Number: 901484-S

<sup>-</sup> Indicates Not Requested

<sup>\*</sup> Indicates NATA accreditation does not cover the performance of this service



iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Kristyn Numa

Report 901484-W

Project name CONCORD NSW CONCORD HS PSI AND DSI

Project ID 20220303
Received Date Jun 22, 2022

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			TB01 Water S22-Jn0063797 Jun 20, 2022	TB02 Water S22-Jn0063798 Jun 20, 2022	RB01 Water S22-Jn0063799 Jun 20, 2022	RB02 Water S22-Jn0063800 Jun 20, 2022
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Naphthalene <sup>N02</sup>	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)N04	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	90	95	94	95



## **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	<b>Holding Time</b>
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jun 29, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Jun 29, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jun 29, 2022	14 Days

<sup>-</sup> Method: LTM-ORG-2010 BTEX and Volatile TRH

Report Number: 901484-W



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#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

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Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 Canberra Unit 1.2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091

Brisbane Newcastle 1/21 Smallwood Place 4/52 Industrial Drive Mayfield East NSW 2304 Murarrie PO Box 60 Wickham 2293 QLD 4172 Tel: +61 7 3902 4600 Tel: +61 2 4968 8448 NATA# 1261 Site# 20794 NATA# 1261 Site# 25079

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Christchurch

Auckland

Penrose,

IANZ# 1327

NZBN: 9429046024954

**Company Name:** iEnvironmental Australia 20220303 Received: Jun 22, 2022 2:47 PM Order No.: Address:

Level 3, 465 Victoria Ave Report #: 901484 Due: Jul 4, 2022 Phone: 1800 234 897 Chatswood Priority: 5 Dav

NSW 2067 02 9911 4001 Fax: **Contact Name:** Kristyn Numa **Project Name:** CONCORD NSW CONCORD HS PSI AND DSI

Project ID: 20220303 **Eurofins Analytical Services Manager: Asim Khan** 

			mple Detail			2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	ourne Laborate	ory - NATA # 12	61 Site # 12	54		Х	Х							Х		Х		Х	Х	Х	X	$\vdash$
	ney Laboratory							Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	$\vdash$
	bane Laborator	•	1 Site # 207	94													Х		Х		<u></u> '	Х
	rnal Laboratory	1		1																	<u> </u>	$\vdash$
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	BH01 / 0.2	Jun 20, 2022		Soil	S22-Jn0063769	Χ	Х	Х	Х	Х	Х	Χ		Χ	Χ	Х		Χ	Х	Х		Х
2	BH02 / 0.2	Jun 20, 2022		Soil	S22-Jn0063770	Χ	Х	Х	Х	Х	Х	Χ		Χ	Χ	Х		Х	Х	Х		Х
3	BH03 / 0.2	Jun 20, 2022		Soil	S22-Jn0063771	Χ	Х	Х	Χ	Χ	Х	Χ		Χ	Χ	Х		Χ	Х	Х		Х
4	BH04 / 0.2	Jun 20, 2022		Soil	S22-Jn0063772	Χ	Х	Х	Χ	Х	Х	Χ		Χ	Χ	Х		Χ	Х	Х		Х
5	BH05 / 0.2	Jun 20, 2022		Soil	S22-Jn0063773	Χ	Х	Х	Χ	Х	Х	Χ		Χ	Х	Х		Х	Х	Х	<u> </u>	Х
6	BH06 / 0.2	Jun 20, 2022		Soil	S22-Jn0063774	Χ	Х	Х	Χ	Х	Х	Χ		Χ	Х	Х		Х	Х	Х	<u> </u>	Х
7	BH07 / 0.2	Jun 20, 2022		Soil	S22-Jn0063775	Χ	Х	Х	Х	Х	Х	Х		Χ	Х	Х		Х	Х	Х	$\bigsqcup$	Х
8	BH08/ 0.2	Jun 20, 2022		Soil	S22-Jn0063776	Х	Х	Х	Χ	Х	Х	Χ		Х	Х	Х		Х	Х	Х	<u> </u>	Х
9	BH09 / 0.2	Jun 20, 2022		Soil	S22-Jn0063777	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
10	BH10 / 0.2	Jun 20, 2022		Soil	S22-Jn0063778	Χ	Х	Х	Χ	Χ	Х	Χ		Χ	Χ	Х		Х	Х	Х	<u> </u>	Х
11	BH11 / 0.2	Jun 20, 2022		Soil	S22-Jn0063779	Χ	Х	Χ	Χ	Χ	Х	Χ		Χ	Χ	Х		Χ	Χ	Х		Х



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NZBN: 9429046024954

Jun 22, 2022 2:47 PM

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

Address:

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Chatswood

NSW 2067

Order No.: 20220303 Report #: 901484

Phone: Fax:

1800 234 897 02 9911 4001 **Priority: Contact Name:** 

ABN: 91 05 0159 898

46-48 Banksia Road

Tel: +61 8 6253 4444

NATA# 2377 Site# 2370

Perth

Welshpool

WA 6106

Received:

Due:

Kristyn Numa

Jul 4, 2022

5 Day

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

		Sar	mple Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Mell	ourne Laborate	ory - NATA # 126	61 Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 S	Site # 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 1261	Site # 20794													Х		Х			Х
12	BH11 / 2.5	Jun 20, 2022	Soil	S22-Jn0063780						Х	Х		Х				Х		Х		
13	BH12 / 0.2	Jun 20, 2022	Soil	S22-Jn0063781	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
14	BH12 / 2.5	Jun 20, 2022	Soil	S22-Jn0063782						Х	Х		Х				Х		Х		
15	BH13 / 0.2	Jun 20, 2022	Soil	S22-Jn0063783	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		X
16	BH13 / 2.5	Jun 20, 2022	Soil	S22-Jn0063784						Х	Х		Х				Х		Х		
17	BH14 / 0.2	Jun 20, 2022	Soil	S22-Jn0063785	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х		Х
18	BH14 / 1.0	Jun 20, 2022	Soil	S22-Jn0063786						Х	X		Х				Х		Х		
19	MW03 / 0.2	Jun 20, 2022	Soil	S22-Jn0063787	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
20	MW03 / 4.5	Jun 20, 2022	Soil	S22-Jn0063788						Х	Х		Х				Х		Х		
21	MW01 / 0.2	Jun 20, 2022	Soil	S22-Jn0063789	Х	Х	Х	Х	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х
22	MW01 / 4.5	Jun 20, 2022	Soil	S22-Jn0063790	Х	Х	Х		Х	Х	X		Х	Х	Х		Х		Х		Х
23	MW02 / 0.2	Jun 20, 2022	Soil	S22-Jn0063791	Х	Х	Х	Х	Х	Х	X		Х	Х	Х	Х	Х	Х	Х		Х
24	MW02 / 4.5	Jun 20, 2022	Soil	S22-Jn0063792	Х	Х	Х		Х	Х	X		Х	Х	Х		Х		Х		Х
25	BH15 / 0.2	Jun 20, 2022	Soil	S22-Jn0063793	Х	Х	Х	Х	Х	Χ	Х		Х	Х	Х	Х	Х	Х	Х		Х



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NSW 2067

Order No.: 20220303 Report #: 901484

Phone: Fax:

Canberra

Mitchell

ACT 2911

1800 234 897 02 9911 4001

Received: Jun 22, 2022 2:47 PM

Due: Jul 4, 2022 **Priority:** 5 Day

**Contact Name:** Kristyn Numa

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

																					icai oci
		Sam	ple Detail		2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Asbestos - WA guidelines	Chloride	Chromium (hexavalent)	Cyanide (total)	HOLD	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Total Nitrogen Set (as N)	SPOCAS Suite	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Melk	ourne Laborato	ory - NATA # 1261	Site # 1254		Х	Х							Х		Х		Х	Х	Х	Х	
Syd	ney Laboratory	- NATA # 1261 Si	te # 18217				Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	
Bris	bane Laborator	y - NATA # 1261 S	Site # 20794	_												Х		Х			Х
26	BH15 / 2.0	Jun 20, 2022	Soil	S22-Jn0063794	Х	Х	Х		Х	Х	Х		Х	Х	Х		Х		Х		Х
27	QS01	Jun 20, 2022	Soil	S22-Jn0063795						Х	Х		Х	Х			Х		Х		X
28	QS02	Jun 20, 2022	Soil	S22-Jn0063796						Х	X		Х	Х			Х		Х		X
29	TB01	Jun 20, 2022	Water	S22-Jn0063797																X	
30	TB02	Jun 20, 2022	Water	S22-Jn0063798																X	$\perp$
31	RB01	Jun 20, 2022	Water	S22-Jn0063799																X	
32	RB02	Jun 20, 2022	Water	S22-Jn0063800																X	$\perp \perp$
33	MW01 / 1.5	Jun 20, 2022	Soil	S22-Jn0063801								Х									$\perp$
34	TS01	Jun 20, 2022	Water	S22-Jn0065102								Х									$\perp \perp$
35	TS02	Jun 20, 2022	Water	S22-Jn0065103								Х									
Test	Counts				21	21	21	18	21	28	28	3	28	23	21	5	28	18	28	4	23



#### **Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis.
- 8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 9. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/k: milligrams per kilogram mg/L: milligrams per litre  $\mu g/L$ : micrograms per litre

org/100 mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100 mL: Most Probable Number of organisms per 100 millilitres

**Terms** 

APHA American Public Health Association

COC Chain of Custody

CP Client Parent - QC was performed on samples pertaining to this report

CRM Certified Reference Material (ISO17034) - reported as percent recovery.

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

LOR Limit of Reporting.

Laboratory Control Sample - reported as percent recovery.

Method Blank

In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

NCP

Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

SPIKE Addition of the analyte to the sample and reported as percentage recovery

SRA Sample Receipt Advice

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

TBTO Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured

and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.

TCLP Toxicity Characteristic Leaching Procedure
TEQ Toxic Equivalency Quotient or Total Equivalence

QSM US Department of Defense Quality Systems Manual Version 5.4

US EPA United States Environmental Protection Agency

WA DWER Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

#### QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30% NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

### **QC Data General Comments**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.



# **Environment Testing**

## **Quality Control Results**

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Total Recoverable Hydrocarbons									
TRH C6-C9			mg/L	< 0.02			0.02	Pass	
Naphthalene			mg/L	< 0.01			0.01	Pass	
TRH C6-C10			mg/L	< 0.02			0.02	Pass	
Method Blank									
BTEX									
Benzene			mg/L	< 0.001			0.001	Pass	
Toluene			mg/L	< 0.001			0.001	Pass	
Ethylbenzene			mg/L	< 0.001			0.001	Pass	
m&p-Xylenes			mg/L	< 0.002			0.002	Pass	
o-Xylene			mg/L	< 0.001			0.001	Pass	
Xylenes - Total*			mg/L	< 0.003			0.003	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons									
TRH C6-C9			%	95			70-130	Pass	
Naphthalene			%	107			70-130	Pass	
TRH C6-C10			%	93			70-130	Pass	
LCS - % Recovery									
BTEX									
Benzene			%	101			70-130	Pass	
Toluene			%	99			70-130	Pass	
Ethylbenzene			%	99			70-130	Pass	
m&p-Xylenes			%	97			70-130	Pass	
o-Xylene			%	101			70-130	Pass	
Xylenes - Total*			%	99			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons			1	Result 1	Result 2	RPD			
TRH C6-C9	N22-Jn0055336	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	N22-Jn0055336	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	N22-Jn0055336	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate					,				
BTEX	1		1	Result 1	Result 2	RPD			
Benzene	N22-Jn0055336	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	N22-Jn0055336	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	N22-Jn0055336	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	N22-Jn0055336	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	N22-Jn0055336	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	N22-Jn0055336	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Report Number: 901484-W



#### Comments

#### Sample Integrity

Custody Seals Intact (if used) N/A Attempt to Chill was evident Yes Sample correctly preserved Yes Appropriate sample containers have been used Nο Sample containers for volatile analysis received with minimal headspace Yes Samples received within HoldingTime Yes Some samples have been subcontracted No

#### **Qualifier Codes/Comments**

Code Description

Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

N02

F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. N04

#### Authorised by:

Robert Biviano Analytical Services Manager Roopesh Rangarajan Senior Analyst-Volatile

Glenn Jackson **General Manager** 

Final Report - this report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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# **CERTIFICATE OF ANALYSIS**

Work Order : **ES2223069** 

: I ENVIRONMENTAL AUSTRALIA

Contact : Kristyn Numa

Address : Level 13/465 Victoria Ave,

Chatswood 2067

Telephone : ---

Client

Project : 20220303 Concord NSW, Concord HS PSI and DSI

Order number : 20220303

C-O-C number : ----

Sampler : I-HUI WAUNG

Site : ---

Quote number : EN/222

No. of samples received : 1

No. of samples analysed : 1

Page : 1 of 9

Laboratory : Environmental Division Sydney

Contact : Hannah White

Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61-2-8784 8555

Date Samples Received : 30-Jun-2022 16:30

Date Analysis Commenced : 04-Jul-2022

Issue Date : 07-Jul-2022 11:16



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

#### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories Position Accreditation Category

Ankit Joshi Senior Chemist - Inorganics Sydney Inorganics, Smithfield, NSW Edwandy Fadjar Organic Coordinator Sydney Organics, Smithfield, NSW Franco Lentini LCMS Coordinator Sydney Organics, Smithfield, NSW Sanjeshni Jyoti Senior Chemist Volatiles Sydney Organics, Smithfield, NSW Sydney Organics, Smithfield, NSW

Page : 2 of 9
Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project 20220303 Concord NSW, Concord HS PSI and DSI

# ALS

#### **General Comments**

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key: CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

- ^ = This result is computed from individual analyte detections at or above the level of reporting
- ø = ALS is not NATA accredited for these tests
- ~ = Indicates an estimated value.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported. Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported. Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorothene, 1,1-dichloroethane, 1,1-dichloroethane, 1,2-dichlorothene, trans-1,2-dichlorothene, trans-1,2-dichlorothene, trichloroethane, 1,1,2-tetrachloroethane, 1,1,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethane, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Chromium on sample ES2222747 # 003. Confirmed by re-digestion and reanalysis.
- Poor spike recovery for Hexavalent Chromium analysis due to matrix interferences
- EG035: Positive Mercury result ES2223069 #1 has been confirmed by reanalysis.
- EP066: Particular samples required dilution due to sample matrix. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Page : 3 of 9
Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI

# ALS

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QS01A	 	 
		Sampli	ng date / time	21-Jun-2022 00:00	 	 
Compound	CAS Number	LOR	Unit	ES2223069-001	 	 
,				Result	 	 
EA055: Moisture Content (Dried @	105-110°C)					
Moisture Content		1.0	%	30.0	 	 
EG005(ED093)T: Total Metals by IC	P-AES					
Arsenic	7440-38-2	5	mg/kg	15	 	 
Cadmium	7440-43-9	1	mg/kg	<1	 	 
Chromium	7440-47-3	2	mg/kg	24	 	 
Copper	7440-50-8	5	mg/kg	64	 	 
Lead	7439-92-1	5	mg/kg	314	 	 
Nickel	7440-02-0	2	mg/kg	8	 	 
Zinc	7440-66-6	5	mg/kg	545	 	 
EG035T: Total Recoverable Mercur	y by FIMS					
Mercury	7439-97-6	0.1	mg/kg	0.3	 	 
EG048: Hexavalent Chromium (Alka						
Hexavalent Chromium	18540-29-9	0.5	mg/kg	1.4	 	 
EK026SF: Total CN by Segmented						
Total Cyanide	57-12-5	1	mg/kg	<1	 	 
EP066: Polychlorinated Biphenyls (						
Total Polychlorinated biphenyls		0.1	mg/kg	<0.2	 	 
EP074D: Fumigants			3 3			
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	 	 
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	 	 
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	 	 
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	 	 
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	 	 
EP074E: Halogenated Aliphatic Cor			3 3			
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	 	 
Chloromethane	74-87-3	5	mg/kg	<5	 	 
Vinyl chloride	75-01-4	5	mg/kg	<5	 	 
Bromomethane	74-83-9	5	mg/kg	<5	 	 
Chloroethane	75-00-3	5	mg/kg	<5	 	 
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	 	 
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	 	 
lodomethane	74-88-4	0.5	mg/kg	<0.5	 	 
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	 	 
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	 	 

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Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI

# ALS

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QS01A	 	 
		Sampli	ng date / time	21-Jun-2022 00:00	 	 
Compound	CAS Number	LOR	Unit	ES2223069-001	 	 
				Result	 	 
EP074E: Halogenated Aliphatic Comp	ounds - Continued					
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	 	 
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	 	 
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	 	 
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	 	 
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	 	 
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	 	 
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	 	 
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	 	 
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	 	 
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	 	 
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	 	 
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	 	 
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	 	 
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	 	 
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	 	 
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	 	 
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	 	 
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	 	 
EP074F: Halogenated Aromatic Comp	oounds					
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	 	 
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	 	 
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	 	 
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	 	 
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	 	 
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	 	 
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	 	 
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	 	 
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	 	 
EP074G: Trihalomethanes						
Chloroform	67-66-3	0.5	mg/kg	<0.5	 	 
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	 	 
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	 	 
Bromoform	75-25-2	0.5	mg/kg	<0.5	 	 
EP075(SIM)A: Phenolic Compounds						

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Client : I ENVIRONMENTAL AUSTRALIA

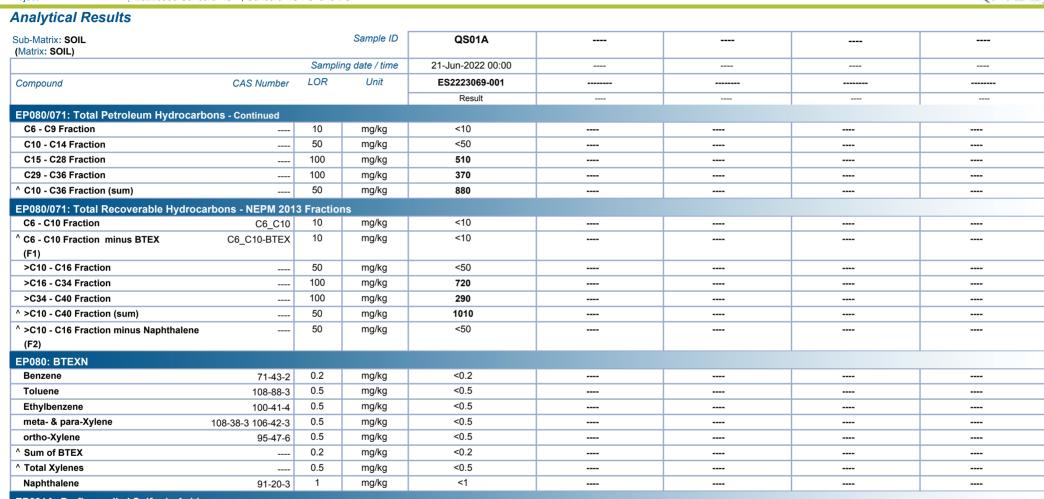
Project : 20220303 Concord NSW, Concord HS PSI and DSI



ub-Matrix: SOIL Matrix: SOIL)			Sample ID	QS01A	 	 
		Sampli	ng date / time	21-Jun-2022 00:00	 	 
Compound	CAS Number	LOR	Unit	ES2223069-001	 	 
				Result	 	 
P075(SIM)A: Phenolic Compounds -	- Continued					
Phenol	108-95-2	0.5	mg/kg	<0.5	 	 
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	 	 
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	 	 
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	 	 
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	 	 
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	 	 
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	 	 
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	 	 
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	 	 
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	 	 
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	 	 
Pentachlorophenol	87-86-5	2	mg/kg	<2	 	 
P075(SIM)B: Polynuclear Aromatic I	Hydrocarbons					
Naphthalene	91-20-3	0.5	mg/kg	1.7	 	 
Acenaphthylene	208-96-8	0.5	mg/kg	6.1	 	 
Acenaphthene	83-32-9	0.5	mg/kg	0.7	 	 
Fluorene	86-73-7	0.5	mg/kg	4.1	 	 
Phenanthrene	85-01-8	0.5	mg/kg	26.1	 	 
Anthracene	120-12-7	0.5	mg/kg	8.2	 	 
Fluoranthene	206-44-0	0.5	mg/kg	30.5	 	 
Pyrene	129-00-0	0.5	mg/kg	27.1	 	 
Benz(a)anthracene	56-55-3	0.5	mg/kg	13.0	 	 
Chrysene	218-01-9	0.5	mg/kg	10.7	 	 
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	13.4	 	 
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.9	 	 
Benzo(a)pyrene	50-32-8	0.5	mg/kg	13.4	 	 
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	6.3	 	 
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.7	 	 
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.9	 	 
Sum of polycyclic aromatic hydrocarbo		0.5	mg/kg	176	 	 
Benzo(a)pyrene TEQ (zero)		0.5	mg/kg	19.1	 	 
Benzo(a)pyrene TEQ (half LOR)		0.5	mg/kg	19.1	 	 
Benzo(a)pyrene TEQ (LOR)		0.5	mg/kg	19.1	 	 

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: I ENVIRONMENTAL AUSTRALIA Client



C29 - C36 Fraction		100	mg/kg	370	 	 
C10 - C36 Fraction (sum)		50	mg/kg	880	 	 
P080/071: Total Recoverable Hydroc	arbons - NEPM 201	13 Fraction	ns			
C6 - C10 Fraction	C6_C10		mg/kg	<10	 	 
C6 - C10 Fraction minus BTEX	C6_C10-BTEX	10	mg/kg	<10	 	 
(F1)						
>C10 - C16 Fraction		50	mg/kg	<50	 	 
>C16 - C34 Fraction		100	mg/kg	720	 	 
>C34 - C40 Fraction		100	mg/kg	290	 	 
>C10 - C40 Fraction (sum)		50	mg/kg	1010	 	 
>C10 - C16 Fraction minus Naphthalene		50	mg/kg	<50	 	 
(F2)						
EP080: BTEXN						
Benzene	71-43-2	0.2	mg/kg	<0.2	 	 
Toluene	108-88-3	0.5	mg/kg	<0.5	 	 
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	 	 
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	 	 
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	 	 
`Sum of BTEX		0.2	mg/kg	<0.2	 	 
` Total Xylenes		0.5	mg/kg	<0.5	 	 
Naphthalene	91-20-3	1	mg/kg	<1	 	 
EP231A: Perfluoroalkyl Sulfonic Acids						
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	 <del></del>	 
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	 	 
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0019	 	 
EP231B: Perfluoroalkyl Carboxylic Ac	ids					
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	 	 
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	 	 
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	 	 

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Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI

# ALS

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QS01A	 	 
		Samplii	ng date / time	21-Jun-2022 00:00	 	 
Compound	CAS Number	LOR	Unit	ES2223069-001	 	 
				Result	 	 
EP231B: Perfluoroalkyl Carboxylic	Acids - Continued					
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	 	 
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	 	 
EP231D: (n:2) Fluorotelomer Sulfor	nic Acids					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	 	 
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	 	 
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	 	 
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	 	 
EP231P: PFAS Sums						
Sum of PFHxS and PFOS	355-46-4/1763-23- 1	0.0002	mg/kg	0.0019	 	 
Sum of PFAS (WA DER List)		0.0002	mg/kg	0.0022	 	 
EP066S: PCB Surrogate						
Decachlorobiphenyl	2051-24-3	0.1	%	98.4	 	 
EP074S: VOC Surrogates						
1.2-Dichloroethane-D4	17060-07-0	0.5	%	91.5	 	 
Toluene-D8	2037-26-5	0.5	%	95.6	 	 
4-Bromofluorobenzene	460-00-4	0.5	%	92.1	 	 
EP075(SIM)S: Phenolic Compound	Surrogates					
Phenol-d6	13127-88-3	0.5	%	90.4	 	 
2-Chlorophenol-D4	93951-73-6	0.5	%	99.0	 	 
2.4.6-Tribromophenol	118-79-6	0.5	%	94.6	 	 
EP075(SIM)T: PAH Surrogates						
2-Fluorobiphenyl	321-60-8	0.5	%	100	 	 
Anthracene-d10	1719-06-8	0.5	%	99.3	 	 
4-Terphenyl-d14	1718-51-0	0.5	%	97.5	 	 
EP080S: TPH(V)/BTEX Surrogates						
1.2-Dichloroethane-D4	17060-07-0	0.2	%	94.5	 	 
Toluene-D8	2037-26-5	0.2	%	90.2	 	 
4-Bromofluorobenzene	460-00-4	0.2	%	94.6	 	 
EP231S: PFAS Surrogate						

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Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI

# 1

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QS01A	 	 
		Samplir	ng date / time	21-Jun-2022 00:00	 	 
Compound	CAS Number	LOR	Unit	ES2223069-001	 	 
				Result	 	 
EP231S: PFAS Surrogate - Continued						
13C4-PFOS		0.0002	%	110	 	 
13C8-PFOA		0.0002	%	101	 	 

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Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI

# Surrogate Control Limits

Sub-Matrix: <b>SOIL</b>		Recovery	Limits (%)
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound S	Surrogates		
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS		60	120
13C8-PFOA		60	120





## **QUALITY CONTROL REPORT**

Work Order : **ES2223069** Page : 1 of 14

Client : I ENVIRONMENTAL AUSTRALIA Laboratory : Environmental Division Sydney

Contact : Kristyn Numa Contact : Hannah White

Address : Level 13/465 Victoria Ave. Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Chatswood 2067

Telephone : ---- : +61-2-8784 8555

Project : 20220303 Concord NSW, Concord HS PSI and DSI Date Samples Received : 30-Jun-2022

Order number : 20220303 Date Analysis Commenced : 04-Jul-2022

C-O-C number : ----

Sampler : I-HUI WAUNG

Site : ----

Quote number : EN/222

No. of samples received : 1
No. of samples analysed : 1

Date Samples Received : 30-Jun-2022
Date Analysis Commenced : 04-Jul-2022
Issue Date : 07-Jul-2022

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

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Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI



Laboratorii Dunlinata (DUD) Donort

#### **General Comments**

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key: Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

RPD = Relative Percentage Difference

# = Indicates failed QC

#### Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL						Laboratory I	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: To	tal Metals by ICP-AES (C	QC Lot: 4440225)							
ES2222747-003	Anonymous	EG005T: Copper	7440-50-8	5	mg/kg	119	126	6.2	0% - 20%
ES2222747-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	30	# 14	70.9	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	9	10	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	109	90	18.5	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	112	98	13.4	0% - 20%
ES2223092-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	32	32	0.0	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	27	29	4.8	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	11	53.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	31	35	11.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	128	129	8.0	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	136	146	7.4	0% - 20%
EA055: Moisture Co	ontent (Dried @ 105-110°0	C) (QC Lot: 4440229)							
ES2223069-001	QS01A	EA055: Moisture Content		0.1	%	30.0	31.6	5.4	0% - 20%
ES2223330-002	Anonymous	EA055: Moisture Content		0.1	%	14.0	15.1	7.5	0% - 50%
EG035T: Total Rec	overable Mercury by FIM	S (QC Lot: 4440226)							
ES2222747-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2223092-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent	Chromium (Alkaline Dige	est) (QC Lot: 4438881)							
ES2222037-014	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2222735-045	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL						Laboratory	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EK026SF: Total CN	by Segmented Flow	Analyser (QC Lot: 4437820)							
ES2222073-002	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
ES2222735-028	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP066: Polychlorin	ated Biphenyls (PCB)	(QC Lot: 4437125)							
ES2222251-001	Anonymous	EP066: Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2222644-001	Anonymous	EP066: Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP074D: Fumigants	(QC Lot: 4439561)								
ES2223058-030	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	7 anonymous	EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2223069-001	QS01A	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
FP074F: Halogenat	ed Aliphatic Compour	nds (QC Lot: 4439561)							
ES2223058-030	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
L02223030-030	Anonymous	EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: lodometriane EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1:1-Dictiloropropylene EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetractionde EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Themorethene	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Distribution terraine EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-11Ichloropethane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1:1:1.2-Tetracinoroetilarie	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1:2.3-11ichloroptopane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP074E: Halogenate	ed Aliphatic Compour	nds (QC Lot: 4439561) - continued									
ES2223058-030	Anonymous	EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
ES2223069-001	QS01A	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenate	ed Aromati <u>c Compour</u>	nds (QC Lot: 4439561)									
ES2223058-030	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	,	EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		El 014. L4 Diolioroperizone							1		

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL						Laboratory I	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074F: Halogenate	ed Aromatic Compour	nds (QC Lot: 4439561) - continued							
ES2223058-030	Anonymous	EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2223069-001	QS01A	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomet	thanes (QC Lot: 4439	561)							
ES2223058-030	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	,	EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2223069-001	QS01A	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phen	olic Compounds (QC	Lot: 4437123)							
ES2222251-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	,	EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2222644-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	_	EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL						Laboratory I	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)A: Phen	olic Compounds (QC	Lot: 4437123) - continued							
ES2222644-001	Anonymous	EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polyn	uclear Aromatic Hydr	ocarbons (QC Lot: 4437123)							
ES2222251-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic		0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		hydrocarbons							
		EP075(SIM): Benzo(a)pyrene TEQ (zero)		0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2222644-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL						Laboratory	Duplicate (DUP) Report		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polyr	nuclear Aromatic Hydr	ocarbons (QC Lot: 4437123) - continued							
ES2222644-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic		0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		hydrocarbons							
		EP075(SIM): Benzo(a)pyrene TEQ (zero)		0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Pe	etroleum Hydrocarbon	s (QC Lot: 4437122)							
ES2222251-001	Anonymous	EP071: C15 - C28 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction		50	mg/kg	<50	<50	0.0	No Limit
ES2222644-001	Anonymous	EP071: C15 - C28 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction		50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Pe	etroleum Hydrocarbon	s (QC Lot: 4439560)							
ES2223058-030	Anonymous	EP080: C6 - C9 Fraction		10	mg/kg	<10	<10	0.0	No Limit
ES2223069-001	QS01A	EP080: C6 - C9 Fraction		10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Re	ecoverable Hydrocarb	ons - NEPM 2013 Fractions (QC Lot: 4437122)							
ES2222251-001	Anonymous	EP071: >C16 - C34 Fraction		100	mg/kg	<100	<100	0.0	No Limit
	, , , , , ,	EP071: >C34 - C40 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction		50	mg/kg	<50	<50	0.0	No Limit
ES2222644-001	Anonymous	EP071: >C16 - C34 Fraction		100	mg/kg	<100	<100	0.0	No Limit
	-	EP071: >C34 - C40 Fraction		100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction		50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Re	ecoverable Hydrocarb	ons - NEPM 2013 Fractions (QC Lot: 4439560)							
ES2223058-030	Anonymous	EP080: C6 - C10 Fraction	C6 C10	10	mg/kg	<10	<10	0.0	No Limit
ES2223069-001	QS01A	EP080: C6 - C10 Fraction	C6 C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC	CL of: 4439560)	21 0001 00 010 1100101			3 3				
ES2223058-030	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
L02223030-030	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Toluene EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		Lr 000. meta- α para-λytene	106-36-3	0.0	9/19	.0.0	.5.5	0.0	145 Ellilli
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2223069-001	QS01A	EP080: Raphuraiene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Toluene EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL						Laboratory I	Duplicate (DUP) Repor	t	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC	Lot: 4439560) - contin	nued							
ES2223069-001	QS01A	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP231A: Perfluoroa	Ikyl Sulfonic Acids (Q	C Lot: 4435778)							
ES2221815-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
	-	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2222869-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroa	alkyl Carboxylic Acids	(QC Lot: 4435778)							
ES2221815-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
	,	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2222869-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
	-	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluor	rotelomer Sulfonic Acid	ds (QC Lot: 4435778)							
ES2221815-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2222869-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

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Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI



# Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL				Method Blank (MB)		Laboratory Control Spike (LCS	S) Report		
				Report	Spike	Spike Recovery (%)	Acceptable	Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLo	t: 4440225)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	113	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	114	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	121	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	110	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	111	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	110	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	100	66.0	133	
EG035T: Total Recoverable Mercury by FIMS (Q	CLot: 4440226)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	98.9	70.0	125	
EG048: Hexavalent Chromium (Alkaline Digest) (	QCLot: 4438881)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	106	68.0	114	
EK026SF: Total CN by Segmented Flow Analyse	r (QCLot: 4437820)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	40 mg/kg	99.8	81.0	129	
EP066: Polychlorinated Biphenyls (PCB) (QCLot	: 4437125)								
EP066: Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	1 mg/kg	86.9	62.0	126	
EP074D: Fumigants (QCLot: 4439561)									
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	86.8	60.0	126	
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	89.2	68.0	124	
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	89.2	51.0	119	
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	90.6	52.0	114	
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	96.3	63.0	115	
EP074E: Halogenated Aliphatic Compounds (QC	Lot: 4439561)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	87.1	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	86.6	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	90.2	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	88.5	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	89.0	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	87.4	49.0	135	
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	86.6	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	98.0	43.0	129	
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	88.5	64.0	120	
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	90.4	67.0	125	
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	87.6	69.0	121	

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL				Method Blank (MB)		Laboratory Control Spike (LCS	S) Report	
				Report	Spike	Spike Recovery (%)	Acceptable	Limits (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 4-	439561) - continued							
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	88.4	65.0	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	86.8	65.0	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	87.7	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	97.3	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	88.5	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	89.6	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	93.2	64.0	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	93.0	68.0	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	89.6	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	99.2	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	91.8	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	91.8	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	95.3	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	92.4	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	53.0	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	92.4	50.0	128
EP074F: Halogenated Aromatic Compounds (QCLot: 4	439561)							
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	91.9	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	91.7	70.0	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	89.3	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	91.0	67.0	123
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	90.2	70.0	116
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	91.1	67.0	117
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	89.0	70.0	114
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	92.4	48.0	122
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	96.2	52.0	122
EP074G: Trihalomethanes (QCLot: 4439561)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	89.8	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	91.3	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	93.1	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	96.4	60.0	126
EP075(SIM)A: Phenolic Compounds (QCLot: 4437123)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	101	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	104	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	104	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	111	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	87.1	54.0	114

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Client : I ENVIRONMENTAL AUSTRALIA



Sub-Matrix: SOIL				Method Blank (MB)		Laboratory Control Spike (LC	S) Report	
				Report	Spike	Spike Recovery (%)	Acceptable	Limits (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4437	123) - continued							
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	112	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	100	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	100	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	94.6	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	95.8	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	97.1	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	77.0	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	(QCLot: 4437123)							
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	112	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	107	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	111	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	115	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	101	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	114	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	114	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	105	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	95.3	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	103	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	98.3	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	96.5	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	97.2	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.8	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLo	t: 4437122)							
EP071: C10 - C14 Fraction		50	mg/kg	<50	300 mg/kg	85.3	75.0	129
EP071: C15 - C28 Fraction		100	mg/kg	<100	450 mg/kg	90.6	77.0	131
EP071: C29 - C36 Fraction		100	mg/kg	<100	300 mg/kg	74.2	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLo	r: 4439560)							
EP080: C6 - C9 Fraction		10	mg/kg	<10	26 mg/kg	93.6	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEF	PM 2013 Fractions (QCL)	ot: 4437122)						
EP071: >C10 - C16 Fraction		50	mg/kg	<50	375 mg/kg	86.7	77.0	125
EP071: >C16 - C34 Fraction		100	mg/kg	<100	525 mg/kg	86.5	74.0	138
EP071: >C34 - C40 Fraction		100	mg/kg	<100	225 mg/kg	77.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEF	OM 2013 Fractions (OCL	ot: 4439560)						
EP080: C6 - C10 Fraction	C6 C10	10	mg/kg	<10	31 mg/kg	89.8	68.4	128
LI 000. 00 - 0 10 I IACUOII	00_010		9/109	- 10	5 : mg/ng	55.6	JJT	120

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Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI



Sub-Matrix: <b>SOIL</b>				Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike	Spike Recovery (%)	Acceptable	e Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High	
EP080: BTEXN (QCLot: 4439560) - continued									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	107	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	104	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	117	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	105	66.0	118	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	105	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	98.1	63.0	119	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4435	778)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	78.8	72.0	128	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.0	67.0	130	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.0	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 44	l35778)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	83.0	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.2	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot:	: 4435778)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	79.6	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.0	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	88.4	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	90.0	69.2	143	

# Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

ub-Matrix: SOIL				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Acceptable	Limits (%)		
aboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EG005(ED093)T: To	otal Metals by ICP-AES (QCLot: 4440225)								
S2222747-003 Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	99.4	70.0	130			
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70.0	130		
		EG005T: Chromium	7440-47-3	50 mg/kg	126	68.0	132		
		EG005T: Copper	7440-50-8	250 mg/kg	70.1	70.0	130		
		EG005T: Lead	7439-92-1	250 mg/kg	91.6	70.0	130		
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70.0	130		
		EG005T: Zinc	7440-66-6	250 mg/kg	120	66.0	133		

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Sub-Matrix: <b>SOIL</b>					Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable	Limits (%)		
boratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
G035T: Total Re	coverable Mercury by FIMS (QCLot: 4440226)								
S2222747-003	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	98.9	70.0	130		
G048: Hexavaler	nt Chromium (Alkaline Digest) (QCLot: 443888	1)							
S2222735-004	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 10.5	70.0	130		
S2222735-004	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	# 29.5	70.0	130		
K026SF: Total C	N by Segmented Flow Analyser (QCLot: 4437	820)							
S2222073-002	Anonymous	EK026SF: Total Cyanide	57-12-5	40 mg/kg	102	70.0	130		
P066: Polychlori	nated Biphenyls (PCB) (QCLot: 4437125)								
S2222251-001	Anonymous	EP066: Total Polychlorinated biphenyls		1 mg/kg	86.4	70.0	130		
P074E: Halogen	ated Aliphatic Compounds (QCLot: 4439561)								
S2223069-001	QS01A	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	80.8	70.0	130		
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	83.3	70.0	130		
P074F: Halogena	ated Aromatic Compounds (QCLot: 4439561)								
S2223069-001	QS01A	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	90.7	70.0	130		
P075(SIM)A: Phe	enolic Compounds (QCLot: 4437123)								
ES2222251-001 Anonymous		EP075(SIM): Phenol	108-95-2	10 mg/kg	106	70.0	130		
	,,	EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	109	70.0	130		
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	95.3	60.0	130		
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	102	70.0	130		
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	95.4	20.0	130		
P075(SIM)B: Pol	ynuclear Aromatic Hydrocarbons (QCLot: 443	97123)							
S2222251-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	106	70.0	130		
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	122	70.0	130		
P080/071: Total l	Petroleum Hydrocarbons (QCLot: 4437122)								
S2222251-001	Anonymous	EP071: C10 - C14 Fraction		480 mg/kg	92.8	73.0	137		
		EP071: C15 - C28 Fraction		3100 mg/kg	114	53.0	131		
		EP071: C29 - C36 Fraction		2060 mg/kg	114	52.0	132		
P080/071: Total l	Petroleum Hydrocarbons (QCLot: 4439560)								
S2223069-001	QS01A	EP080: C6 - C9 Fraction		32.5 mg/kg	81.7	70.0	130		
P080/071: Total l	Recoverable Hydrocarbons - NEPM 2013 Fract	ions (QCLot: 4437122)							
S2222251-001	Anonymous	EP071: >C10 - C16 Fraction		860 mg/kg	84.0	73.0	137		
		EP071: >C16 - C34 Fraction		4320 mg/kg	116	53.0	131		
		EP071: >C34 - C40 Fraction		890 mg/kg	128	52.0	132		
P080/071: Total l	Recoverable Hydrocarbons - NEPM 2013 Fract	ions (QCLot: 4439560)							
S2223069-001	QS01A	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.0	70.0	130		
DOOD DIEVN (C	(CLot: 4439560)								

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Sub-Matrix: SOIL				Ma	atrix Spike (MS) Report		
				Spike	SpikeRecovery(%)	Acceptable I	Limits (%)
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (Q	CLot: 4439560) - continued						
ES2223069-001	QS01A	EP080: Benzene	71-43-2	2.5 mg/kg	85.7	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	81.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.7	70.0	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	84.3	70.0	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.9	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	76.2	70.0	130
EP231A: Perfluoro	alkyl Sulfonic Acids (QCLot: 4435778)						
ES2221815-001 Anonymous	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	78.0	72.0	128
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	80.8	67.0	130
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	74.4	68.0	136
EP231B: Perfluoro	palkyl Carboxylic Acids (QCLot: 4435778)						
ES2221815-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	82.1	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	95.2	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	89.6	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	95.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	92.8	69.0	133
EP231D: (n:2) Flu	orotelomer Sulfonic Acids (QCLot: 4435778)						
ES2221815-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	80.4	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	86.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	78.8	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	74.4	69.2	143



# QA/QC Compliance Assessment to assist with Quality Review

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Client : I ENVIRONMENTAL AUSTRALIA Laboratory : Environmental Division Sydney

 Contact
 : Kristyn Numa
 Telephone
 : +61-2-8784 8555

 Project
 : 20220303 Concord NSW, Concord HS PSI and DSI
 Date Samples Received
 : 30-Jun-2022

 Site
 : --- Issue Date
 : 07-Jul-2022

Sampler : I-HUI WAUNG No. of samples received : 1
Order number : 20220303 No. of samples analysed : 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

# **Summary of Outliers**

### **Outliers: Quality Control Samples**

This report highlights outliers flagged in the Quality Control (QC) Report.

- NO Method Blank value outliers occur.
- NO Laboratory Control outliers occur.
- Duplicate outliers exist please see following pages for full details.
- Matrix Spike outliers exist please see following pages for full details.
- For all regular sample matrices, NO surrogate recovery outliers occur.

## **Outliers: Analysis Holding Time Compliance**

• Analysis Holding Time Outliers exist - please see following pages for full details.

### **Outliers: Frequency of Quality Control Samples**

NO Quality Control Sample Frequency Outliers exist.

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#### **Outliers: Quality Control Samples**

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: SOIL

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	ES2222747003	Anonymous	Chromium	7440-47-3	70.9 %	0% - 50%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EG048: Hexavalent Chromium (Alkaline Digest)	ES2222735004	Anonymous	Hexavalent Chromium	18540-29-9	10.5 %	70.0-130%	Recovery less than lower data quality
							objective
EG048: Hexavalent Chromium (Alkaline Digest)	ES2222735004	Anonymous	Hexavalent Chromium	18540-29-9	29.5 %	70.0-130%	Recovery less than lower data quality
							objective

#### **Outliers: Analysis Holding Time Compliance**

Matrix: SOIL

Ex	Extraction / Preparation			Analysis		
Date extracted	Due for extraction	Days	Date analysed	Due for analysis	Days	
		overdue			overdue	
05-Jul-2022	28-Jun-2022	7	05-Jul-2022	28-Jun-2022	7	
05-Jul-2022	28-Jun-2022	7	05-Jul-2022	28-Jun-2022	7	
05-Jul-2022	28-Jun-2022	7	05-Jul-2022	28-Jun-2022	7	
05-Jul-2022	28-Jun-2022	7	05-Jul-2022	28-Jun-2022	7	
	05-Jul-2022 05-Jul-2022	Date extracted         Due for extraction           05-Jul-2022         28-Jun-2022           05-Jul-2022         28-Jun-2022           05-Jul-2022         28-Jun-2022	Date extracted         Due for extraction overdue           05-Jul-2022         28-Jun-2022         7           05-Jul-2022         28-Jun-2022         7           05-Jul-2022         28-Jun-2022         7	Date extracted         Due for extraction         Days overdue         Date analysed           05-Jul-2022         28-Jun-2022         7         05-Jul-2022           05-Jul-2022         28-Jun-2022         7         05-Jul-2022           05-Jul-2022         28-Jun-2022         7         05-Jul-2022	Date extracted         Due for extraction         Days overdue         Date analysed         Due for analysis           05-Jul-2022         28-Jun-2022         7         05-Jul-2022         28-Jun-2022           05-Jul-2022         28-Jun-2022         7         05-Jul-2022         28-Jun-2022           05-Jul-2022         28-Jun-2022         7         05-Jul-2022         28-Jun-2022	

# **Analysis Holding Time Compliance**

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for <u>VOC in soils</u> vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive <u>or</u> Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: × = Holding time breach : ✓ = Within holding time

Matrix. 301L				Lvaluation	I lolding time	breach, • - with	in notating time.
Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QS01A	21-Jun-2022				05-Jul-2022	05-Jul-2022	
****		<u> </u>	ļ		<u> </u>		

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Client : I ENVIRONMENTAL AUSTRALIA



Matrix: SOIL				Evaluation	n: × = Holding time	breach ; ✓ = With	n holding tim
Method	Sample Date	Ex	traction / Preparation			Analysis	
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)  QS01A	21-Jun-2022	05-Jul-2022	18-Dec-2022	✓	05-Jul-2022	18-Dec-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QS01A	21-Jun-2022	05-Jul-2022	19-Jul-2022	✓	05-Jul-2022	19-Jul-2022	✓
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)  QS01A	21-Jun-2022	05-Jul-2022	19-Jul-2022	1	06-Jul-2022	12-Jul-2022	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)  QS01A	21-Jun-2022	04-Jul-2022	05-Jul-2022	✓	05-Jul-2022	18-Jul-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	✓	06-Jul-2022	14-Aug-2022	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved (EP074) QS01A	21-Jun-2022	05-Jul-2022	28-Jun-2022	¥	05-Jul-2022	28-Jun-2022	<b>x</b>
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved (EP074) QS01A	21-Jun-2022	05-Jul-2022	28-Jun-2022	¥	05-Jul-2022	28-Jun-2022	æ
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved (EP074) QS01A	21-Jun-2022	05-Jul-2022	28-Jun-2022	×	05-Jul-2022	28-Jun-2022	×
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved (EP074)  QS01A	21-Jun-2022	05-Jul-2022	28-Jun-2022	¥	05-Jul-2022	28-Jun-2022	×
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	✓	05-Jul-2022	14-Aug-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))  QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	✓	05-Jul-2022	14-Aug-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	✓	05-Jul-2022	05-Jul-2022	1
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	1	05-Jul-2022	05-Jul-2022	<b>✓</b>

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Client : I ENVIRONMENTAL AUSTRALIA



Matrix: SOIL				Evaluation	: × = Holding time	breach ; ✓ = Withi	n holding time.
Method	Sample Date	Ex	traction / Preparation				
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QS01A	21-Jun-2022	05-Jul-2022	05-Jul-2022	✓	05-Jul-2022	05-Jul-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
Soil Glass Jar - Unpreserved (EP231X) QS01A	21-Jun-2022	04-Jul-2022	18-Dec-2022	✓	06-Jul-2022	13-Aug-2022	<b>✓</b>
EP231B: Perfluoroalkyl Carboxylic Acids							
Soil Glass Jar - Unpreserved (EP231X) QS01A	21-Jun-2022	04-Jul-2022	18-Dec-2022	✓	06-Jul-2022	13-Aug-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
Soil Glass Jar - Unpreserved (EP231X) QS01A	21-Jun-2022	04-Jul-2022	18-Dec-2022	✓	06-Jul-2022	13-Aug-2022	<b>√</b>
EP231P: PFAS Sums							
Soil Glass Jar - Unpreserved (EP231X) QS01A	21-Jun-2022	04-Jul-2022	18-Dec-2022	✓	06-Jul-2022	13-Aug-2022	✓

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### **Quality Control Parameter Frequency Compliance**

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL Evaluation: **x** = Quality Control frequency not within specification; ✓ = Quality Control frequency within specification. Quality Control Sample Type Count Rate (%) **Quality Control Specification** Evaluation Method Analytical Methods QC Regular Actual Expected Laboratory Duplicates (DUP) Hexavalent Chromium by Alkaline Digestion and DA Finish 2 20 10.00 10.00 NEPM 2013 B3 & ALS QC Standard EG048G Moisture Content 2 17 11.76 NEPM 2013 B3 & ALS QC Standard EA055 10.00 1 PAH/Phenols (SIM) EP075(SIM) 2 18 11.11 10.00 NEPM 2013 B3 & ALS QC Standard Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS 2 EP231X 18 11.11 10.00 1 NEPM 2013 B3 & ALS QC Standard 2 13 Polychlorinated Biphenyls (PCB) EP066 15.38 10.00 NEPM 2013 B3 & ALS QC Standard

Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	18	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SE	2	20	10.00	10.00	-/	NEPM 2013 B3 & ALS QC Standard

TRH Volatiles/BTEX	EP080	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard

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Client : I ENVIRONMENTAL AUSTRALIA

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atrix: SOIL Evaluation: ★ = Quality Control frequency not within specification; ✓ = Quality Control frequency within specification.											
Quality Control Sample Type		Co	ount		Rate (%)		Quality Control Specification				
Analytical Methods	Method	OC	Reaular	Actual	Expected	Evaluation					
Matrix Spikes (MS) - Continued											
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
Polychlorinated Biphenyls (PCB)	EP066	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
Total Mercury by FIMS	EG035T	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard				
Volatile Organic Compounds	EP074	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard				

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Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI



### **Brief Method Summaries**

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS.  Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

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Work Order : ES2223069

Client : I ENVIRONMENTAL AUSTRALIA

Project : 20220303 Concord NSW, Concord HS PSI and DSI



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuECheRS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

	OF CUS	TODY	TRUE						###		ne Lab			#			Labora				### Melbourne Laboratory 6 Monterey Road Dandenong South VIC 3175				
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	Chatswood N		Where						0		TOTT	al				Emai	l for l	nvoic	e	bills@	Ils@ienvi.com.au, LABRESULTS@ienvi.com.au				
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1	MW01	28-6-22	W	1	1	1	1	1	1	1	1	1	1	1				3	2	4	1				
2	MW02	28-6-22	W	1	1	1	1	1	1	1	1	1	1	1				3	2	4	1			Please use COC	eamnle nan
3	MW03	28-6-22	w	1	1	1	1	1	1	1	1	1	1	1				3	2	4	1			where they differ	
4	QW01	28-6-22	W	1	1	1	1	1	1	1	1	1	1	1				3	2	4	1				
5	RB01	28-6-22	w												1					2					
6	TBO1	28-6-22	W												1					2				rename trip bla	ank to TB0
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www.eurofins.com.au

EnviroSales@eurofins.com

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### Sample Receipt Advice

Company name:

iEnvironmental Australia

Contact name:

Michael Nicholls

Project name:

CONCORD NSW CONCORD HS PSI AND DSI

Project ID: Turnaround time:

20220303 5 Day

Date/Time received

Jul 1, 2022 3:35 PM

**Eurofins reference** 

902403

### Sample Information

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

### Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Asim Khan on phone: or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Michael Nicholls - michael.nic@ienvi.com.au.

Note: A copy of these results will also be delivered to the general iEnvironmental Australia email address.





web: www.eurofins.com.au email: EnviroSales@eurofins.com

#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

ABN: 50 005 085 521

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> Auckland 35 O'Rorke Road Penrose, Auckland 1061

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Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

**Company Name:** 

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Order No.: 20220303 Report #: 902403

Tel: +61 2 6113 8091

Canberra

Mitchell

ACT 2911

Phone: 1800 234 897 02 9911 4001 Fax:

Received: Jul 1, 2022 3:35 PM

Due: Jul 8, 2022 **Priority:** 5 Day

**Contact Name:** Michael Nicholls

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

		Sa	ımple Detail			2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Chloride	Chromium (hexavalent)	Cyanide (total)	Sulphide (as S)	Total Nitrogen (as N)	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Melk	ourne Laborato	ory - NATA # 12	61 Site # 12	54				Х				Х	Х	Х				
Sydi	ney Laboratory	- NATA # 1261	Site # 18217	7		Х	Х		Х	Х	Х				Х	Х	Х	
Bris	bane Laborator	y - NATA # 126	1 Site # 2079	94														Х
Exte	rnal Laboratory	<u>,                                      </u>																
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	MW01	Jun 28, 2022		Water	S22-JI0001340	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
2	MW02	Jun 28, 2022		Water	S22-JI0001341	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
3	MW03	Jun 28, 2022		Water	S22-JI0001342	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
4	QW01	Jun 28, 2022		Water	S22-JI0001343	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
5	RB01	Jun 28, 2022		Water	S22-JI0001344												Х	
6	TB01	Jun 28, 2022		Water	S22-JI0001345												Х	
Test	Counts					4	4	4	4	4	4	4	4	4	4	4	2	4



iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Michael Nicholls

Report 902403-W

Project name CONCORD NSW CONCORD HS PSI AND DSI

Project ID 20220303
Received Date Jul 01, 2022

Client Sample ID			MW01	MW02	MW03	QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S22-JI0001340	S22-JI0001341	S22-JI0001342	S22-JI0001343
Date Sampled			Jun 28, 2022	Jun 28, 2022	Jun 28, 2022	Jun 28, 2022
Test/Reference	LOR	Unit				
2-Propanone (Acetone)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Ammonia (as N)	0.01	mg/L	0.09	8.7	0.03	8.2
Chloride	1	mg/L	1200	660	59	600
Chromium (hexavalent)	0.005	mg/L	< 0.005	0.024	< 0.005	< 0.005
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Sulphide (as S)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Nitrogen (as N)	0.2	mg/L	< 0.2	18	0.2	19
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	0.09	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.1	1.1	< 0.1	1.0
TRH C29-C36	0.1	mg/L	< 0.1	0.3	< 0.1	0.2
TRH C10-C36 (Total)	0.1	mg/L	0.1	1.49	< 0.1	1.2
Naphthalene <sup>N02</sup>	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)N04	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.17	< 0.05	0.07
TRH >C10-C16 less Naphthalene (F2)N01	0.05	mg/L	< 0.05	0.17	< 0.05	0.07
TRH >C16-C34	0.1	mg/L	< 0.1	1.2	< 0.1	1.1
TRH >C34-C40	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	1.47	< 0.1	1.17
2-Butanone (MEK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	67	67	66	64



Client Sample ID			MW01	MW02	MW03	QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S22-JI0001340	S22-JI0001341	S22-JI0001342	S22-JI0001343
Date Sampled			Jun 28, 2022	Jun 28, 2022		Jun 28, 2022
•		11.2	Jun 26, 2022	Jun 26, 2022	Jun 28, 2022	Jun 26, 2022
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons		T				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene <sup>N07</sup>	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001 < 0.001	< 0.001 < 0.001	< 0.001	< 0.001
Pyrene Total PAH*	0.001	mg/L	< 0.001		< 0.001	< 0.001 < 0.001
2-Fluorobiphenyl (surr.)	0.001	mg/L %	< 0.001	< 0.001 50	< 0.001 Q09INT	< 0.001
p-Terphenyl-d14 (surr.)	1	%	60	83	57	66
Chlorinated Hydrocarbons		/0	00	03	37	00
1.2-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.3-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.4-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Benzal chloride	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Benzotrichloride	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Benzyl chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobutadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pentachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloro-m-xylene (surr.)	1	%	54	84	84	73
Polychlorinated Biphenyls	'					
Aroclor-1016	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1221	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total PCB*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibutylchlorendate (surr.)	1	%	77	91	85	81
Tetrachloro-m-xylene (surr.)	1	%	54	84	84	73



Client Sample ID			MW01	MW02	MW03	QW01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S22-JI0001340	S22-JI0001341	S22-JI0001342	S22-JI0001343
Date Sampled			Jun 28, 2022	Jun 28, 2022	Jun 28, 2022	Jun 28, 2022
Test/Reference	LOR	Unit	, , , , , , , ,		, , , , , , , , , , , , , , , , , , , ,	, , , , , , , ,
Phenois (Halogenated)	LOIT	O				
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Phenois (non-Halogenated)	0.01	IIIg/L	< 0.01	< 0.01	< 0.01	< 0.01
2-Cyclohexyl-4.6-dinitrophenol	0.1		< 0.1	.01	.01	.01
, , ,	0.1	mg/L		< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol 2-Nitrophenol	0.03	mg/L	< 0.03 < 0.01	< 0.03 < 0.01	< 0.03 < 0.01	< 0.03 < 0.01
2.4-Dimethylphenol		mg/L				
7.1	0.003	mg/L	< 0.003 < 0.03	< 0.003	< 0.003	< 0.003 < 0.03
2.4-Dinitrophenol	0.03	mg/L		< 0.03 < 0.003	< 0.03	< 0.03
2-Methylphenol (o-Cresol)		mg/L	< 0.003		< 0.003	
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol Phenol (comp.)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	0.1	%	39 < 0.1	46 < 0.1	46	44
Total Non-Halogenated Phenol*  Heavy Metals	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
•	0.004		0.004	0.000	0.004	0.040
Arsenic (filtered)	0.001	mg/L	0.001	0.009	< 0.001	0.010
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	0.012	< 0.001	0.012
Copper (filtered)	0.001	mg/L	0.004	0.002	0.006	0.002
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.014	0.005 0.086	0.003	0.005 0.082
Zinc (filtered) PFASs Summations	0.005	mg/L	0.064	0.086	0.030	0.082
	0.001	/!	0.048	0.015	0.262	0.145
Sum (PFHxS + PFOS)*	0.001	ug/L	0.018	0.015	0.262	0.145
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.001	ug/L	0.035	0.025	0.602	0.155
Sum of PFASs (n=30)*	0.005	ug/L	0.144	0.077	1.415	0.159
Sum of WA DWER PEAS (n=10)*	0.001	ug/L	0.024	0.01	0.52	0.14
Sum of WA DWER PFAS (n=10)*	0.005	ug/L	0.139	0.077	1.33	0.155
Perfluoroalkyl sulfonamido substances- Trace	0.005		< 0.005	.0.005	- 0.005	.0.005
Perfluorooctane sulfonamide (FOSA) <sup>N11</sup> N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) <sup>N11</sup>	0.005	ug/L	< 0.005	< 0.005	< 0.005	< 0.005
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) <sup>N11</sup>	0.005	ug/L	< 0.005	< 0.005	< 0.005	< 0.005
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) <sup>N11</sup>	0.005	ug/L ug/L	< 0.005 < 0.005	< 0.005 < 0.005	< 0.005 < 0.005	< 0.005 < 0.005
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) <sup>N11</sup>	0.005	ug/L ug/L	< 0.005	< 0.005	< 0.005	< 0.005
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) <sup>N11</sup>	0.005	ug/L	< 0.005	< 0.005	< 0.005	< 0.005
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) <sup>N11</sup>	0.005	ug/L	< 0.005	< 0.005	< 0.005	< 0.005



Client Sample ID			MW01	MW02	MW03	QW01
Sample Matrix			Water	Water	Water	Water
· ·			111111111111111111111111111111111111111			1
Eurofins Sample No.			S22-JI0001340	S22-JI0001341	S22-JI0001342	S22-JI0001343
Date Sampled			Jun 28, 2022	Jun 28, 2022	Jun 28, 2022	Jun 28, 2022
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances- Trace		1				
13C8-FOSA (surr.)	1	%	63	109	97	112
D3-N-MeFOSA (surr.)	1	%	59	71	71	72
D5-N-EtFOSA (surr.)	1	%	73	86	87	91
D7-N-MeFOSE (surr.)	1	%	Q09INT	Q09INT	55	TAI <sup>60D</sup>
D9-N-EtFOSE (surr.)	1	%	58	60	72	62
D5-N-EtFOSAA (surr.)	1	%	42	90	57	125
D3-N-MeFOSAA (surr.)	1	%	50	132	83	140
Perfluoroalkyl carboxylic acids (PFCAs) - Trace						
Perfluorobutanoic acid (PFBA) <sup>N11</sup>	0.005	ug/L	0.012	0.014	0.088	< 0.005
Perfluoropentanoic acid (PFPeA) <sup>N11</sup>	0.001	ug/L	0.043	0.026	0.28	< 0.001
Perfluorohexanoic acid (PFHxA) <sup>N11</sup>	0.001	ug/L	0.029	0.007	0.16	< 0.001
Perfluoroheptanoic acid (PFHpA) <sup>N11</sup>	0.001	ug/L	0.015	0.005	0.20	< 0.001
Perfluorooctanoic acid (PFOA) <sup>N11</sup>	0.001	ug/L	0.017	0.010	0.34	0.010
Perfluorononanoic acid (PFNA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	0.005	< 0.001
Perfluorodecanoic acid (PFDA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
Perfluorotridecanoic acid (PFTrDA) <sup>N15</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
Perfluoroundecanoic acid (PFUnDA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
Perfluorododecanoic acid (PFDoDA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
Perfluorotetradecanoic acid (PFTeDA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
13C4-PFBA (surr.)	1	%	63	45	79	43
13C5-PFPeA (surr.)	1	%	63	42	75	35
13C5-PFHxA (surr.)	1	%	95	40	109	45
13C4-PFHpA (surr.)	1	%	106	50	96	48
13C8-PFOA (surr.)	1	%	62	110	120	106
13C5-PFNA (surr.)	1	%	101	153	172	154
13C6-PFDA (surr.)	1	%	91	118	121	114
13C2-PFUnDA (surr.)	1	%	82	124	116	125
13C2-PFDoDA (surr.)	1	%	64	124	73	116
13C2-PFTeDA (surr.)	1	%	60	75	78	87
Perfluoroalkyl sulfonic acids (PFSAs)- Trace						
Perfluorobutanesulfonic acid (PFBS) <sup>N11</sup>	0.001	ug/L	0.005	< 0.001	< 0.001	< 0.001
Perfluorononanesulfonic acid (PFNS) <sup>N15</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
Perfluoropropanesulfonic acid (PFPrS) <sup>N15</sup>	0.001	ug/L	0.002	< 0.001	0.010	0.004
Perfluoropentanesulfonic acid (PFPeS) <sup>N15</sup>	0.001	ug/L	0.003	< 0.001	0.038	< 0.001
Perfluorohexanesulfonic acid (PFHxS) <sup>N11</sup>	0.001	ug/L	0.011	0.015	0.082	0.015
Perfluoroheptanesulfonic acid (PFHpS) <sup>N15</sup>	0.001	ug/L	< 0.001	< 0.001	0.032	< 0.001
Perfluorooctanesulfonic acid (PFOS)N11	0.001	ug/L	0.007	< 0.001	0.18	0.13
Perfluorodecanesulfonic acid (PFDS) <sup>N15</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
13C3-PFBS (surr.)	1	%	116	Q09INT	37	26
18O2-PFHxS (surr.)	1	%	108	126	150	128
13C8-PFOS (surr.)	1	%	93	Q09INT	139	136
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trac	e	1				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) <sup>N11</sup>	0.005	ug/L	< 0.005	< 0.005	< 0.005	< 0.005
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) <sup>N11</sup>	0.001	ug/L	< 0.001	< 0.001	< 0.001	< 0.001



Client Sample ID Sample Matrix Eurofins Sample No.			MW01 Water S22-JI0001340		MW03 Water S22-JI0001342	QW01 Water S22-JI0001343
Date Sampled			Jun 28, 2022	Jun 28, 2022	Jun 28, 2022	Jun 28, 2022
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace						
13C2-4:2 FTSA (surr.)	1	%	50	11	Q09INT	Q09INT
13C2-6:2 FTSA (surr.)	1	%	62	157	106	154
13C2-8:2 FTSA (surr.)	1	%	51	51	56	64
13C2-10:2 FTSA (surr.)	1	%	51	149	80	149

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			RB01 Water S22-JI0001344 Jun 28, 2022	TB01 Water S22-JI0001345 Jun 28, 2022
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
Naphthalene <sup>N02</sup>	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)N04	0.02	mg/L	< 0.02	< 0.02
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	87	85



### Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description 2-Propanone (Acetone)	<b>Testing Site</b> Sydney	Extracted Jul 06, 2022	Holding Time 14 Days
- Method: E016 Volatile Organic Compounds (VOC)	, ,	,	•
Ammonia (as N)	Melbourne	Jul 02, 2022	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA	•		
Chloride	Sydney	Jul 06, 2022	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography	•		
Chromium (hexavalent)	Sydney	Jul 06, 2022	28 Days
- Method: In-house method E057.1			
Cyanide (total)	Sydney	Jul 06, 2022	14 Days
- Method: E054 Total Cyanide			
Sulphide (as S)	Melbourne	Jul 02, 2022	28 Days
- Method: LTM-INO-4011 Suphide			
Total Nitrogen (as N)	Melbourne	Jul 04, 2022	7 Days
- Method: LTM-INO-4040 Phosphate and Nitrogen in waters			
2-Butanone (MEK)	Sydney	Jul 06, 2022	14 Days
- Method:			
Chlorinated Hydrocarbons	Melbourne	Jul 02, 2022	7 Days
- Method: USEPA 8121 Chlorinated Hydrocarbons			
Polychlorinated Biphenyls	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 01, 2022	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Sydney	Jul 01, 2022	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	Jul 06, 2022	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Sydney	Jul 01, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs) - Trace			
Perfluoroalkyl sulfonamido substances- Trace	Brisbane	Jul 04, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl carboxylic acids (PFCAs) - Trace	Brisbane	Jul 04, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
Perfluoroalkyl sulfonic acids (PFSAs)- Trace	Brisbane	Jul 04, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace	Brisbane	Jul 04, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) - low level			



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#### **Eurofins Environment Testing Australia Pty Ltd**

NATA# 1261 Site# 1254 NATA# 1261 Site# 1254 NATA# 1261 Site# 18217

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**Company Name:** 

Address:

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Chatswood NSW 2067

Report #: Phone: Fax:

902403 1800 234 897 02 9911 4001

20220303

Priority: **Contact Name:** 

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46-48 Banksia Road

Tel: +61 8 6253 4444

NATA# 2377 Site# 2370

Perth

Welshpool

WA 6106

Received:

Due:

5 Day Michael Nicholls

Jul 8, 2022

Jul 1, 2022 3:35 PM

**Project Name:** 

CONCORD NSW CONCORD HS PSI AND DSI

Project ID:

20220303

**Eurofins Analytical Services Manager: Asim Khan** 

	Sample Detail  Melbourne Laboratory - NATA # 1261 Site # 1254  Sydney Laboratory - NATA # 1261 Site # 18217  Brisbane Laboratory - NATA # 1261 Site # 20794  External Laboratory  No Sample ID Sample Date Sampling Time Matrix LAB ID					2-Butanone (MEK)	2-Propanone (Acetone)	Ammonia (as N)	Chloride	Chromium (hexavalent)	Cyanide (total)	Sulphide (as S)	Total Nitrogen (as N)	Chlorinated Hydrocarbons	Polychlorinated Biphenyls	Eurofins Suite B7A (filtered metals)	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs) - Trace
Mell	ourne Laborato	ory - NATA # 12	261 Site # 12	54				Х				Х	Х	Х				
Syd	ney Laboratory	- NATA # 1261	Site # 18217	7		Х	Х		Х	Х	Х				Х	Х	Х	
Bris	bane Laborator	y - NATA # 126	1 Site # 2079	94														Х
Exte	rnal Laboratory	1			_													
No	Sample ID	Sample Date		Matrix	LAB ID													
1	MW01	Jun 28, 2022		Water	S22-JI0001340	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
2	MW02	Jun 28, 2022		Water	S22-JI0001341	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
3	MW03	Jun 28, 2022		Water	S22-JI0001342	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
4	QW01	Jun 28, 2022		Water	S22-JI0001343	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
5	RB01	Jun 28, 2022		Water	S22-JI0001344												Х	
6																Х		
Test	Counts					4	4	4	4	4	4	4	4	4	4	4	2	4



### **Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis.
- 8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 9. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/k: milligrams per kilogram mg/L: milligrams per litre  $\mu g/L$ : micrograms per litre

org/100 mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100 mL: Most Probable Number of organisms per 100 millilitres

#### **Terms**

APHA American Public Health Association

COC Chain of Custody

CP Client Parent - QC was performed on samples pertaining to this report
CRM Certified Reference Material (ISO17034) - reported as percent recovery

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

LOR Limit of Reporting.

Laboratory Control Sample - reported as percent recovery.

Method Blank

In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

NCP

Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

SPIKE Addition of the analyte to the sample and reported as percentage recovery

SRA Sample Receipt Advice

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

TBTO Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured

and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.

TCLP Toxicity Characteristic Leaching Procedure
TEQ Toxic Equivalency Quotient or Total Equivalence

QSM US Department of Defense Quality Systems Manual Version 5.4

US EPA United States Environmental Protection Agency

WA DWER Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

### QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30% NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

### **QC Data General Comments**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.



### **Quality Control Results**

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank	,				
2-Propanone (Acetone)	mg/L	< 0.005	0.005	Pass	
Ammonia (as N)	mg/L	< 0.01	0.01	Pass	
Cyanide (total)	mg/L	< 0.005	0.005	Pass	
Sulphide (as S)	mg/L	< 0.1	0.1	Pass	
Total Nitrogen (as N)	mg/L	< 0.2	0.2	Pass	
Method Blank					
Total Recoverable Hydrocarbons					
TRH C6-C9	mg/L	< 0.02	0.02	Pass	
TRH C10-C14	mg/L	< 0.05	0.05	Pass	
TRH C15-C28	mg/L	< 0.1	0.1	Pass	
TRH C29-C36	mg/L	< 0.1	0.1	Pass	
Naphthalene	mg/L	< 0.01	0.01	Pass	
TRH C6-C10	mg/L	< 0.02	0.02	Pass	
TRH >C10-C16	mg/L	< 0.05	0.05	Pass	
TRH >C16-C34	mg/L	< 0.1	0.1	Pass	
TRH >C34-C40	mg/L	< 0.1	0.1	Pass	
Method Blank					
2-Butanone (MEK)	mg/L	< 0.005	0.005	Pass	
Method Blank					
ВТЕХ					
Benzene	mg/L	< 0.001	0.001	Pass	
Toluene	mg/L	< 0.001	0.001	Pass	
Ethylbenzene	mg/L	< 0.001	0.001	Pass	
m&p-Xylenes	mg/L	< 0.002	0.002	Pass	
o-Xylene	mg/L	< 0.001	0.001	Pass	
Xylenes - Total*	mg/L	< 0.003	0.003	Pass	
Method Blank					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/L	< 0.001	0.001	Pass	
Acenaphthylene	mg/L	< 0.001	0.001	Pass	
Anthracene	mg/L	< 0.001	0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001	0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001	0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001	0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001	0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001	0.001	Pass	
Chrysene	mg/L	< 0.001	0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001	0.001	Pass	
Fluoranthene	mg/L	< 0.001	0.001	Pass	
Fluorene	mg/L	< 0.001	0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001	0.001	Pass	
Naphthalene	mg/L	< 0.001	0.001	Pass	
Phenanthrene	mg/L	< 0.001	0.001	Pass	
Pyrene	mg/L	< 0.001	0.001	Pass	
Method Blank	1 1119, L	, , , , , ,	0.007	. 400	
Chlorinated Hydrocarbons					
1.2-Dichlorobenzene	mg/L	< 0.005	0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005	0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005	0.005	Pass	
	mg/L	< 0.005	0.005	Pass	
1.2.3.5-Tetrachlorobenzene	I may				



Test	Units	Result 1	Acceptance	Pass	Qualifying
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005	0.005	Limits Pass	Code
1.3-Dichlorobenzene	mg/L	< 0.005	0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005	0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005	0.005	Pass	
Benzal chloride	mg/L	< 0.0001	0.0001	Pass	
Benzotrichloride			0.0001	Pass	
	mg/L	< 0.0001	0.0001	Pass	
Benzyl chloride	mg/L	< 0.005	+		
Hexachlorobenzene	mg/L	< 0.005	0.005	Pass	
Hexachlorobutadiene	mg/L	< 0.005	0.005	Pass	
Hexachlorocyclopentadiene	mg/L	< 0.005	0.005	Pass	
Hexachloroethane	mg/L	< 0.005	0.005	Pass	
Pentachlorobenzene	mg/L	< 0.005	0.005	Pass	
Method Blank		T			
Polychlorinated Biphenyls					
Aroclor-1016	mg/L	< 0.005	0.005	Pass	
Aroclor-1221	mg/L	< 0.005	0.005	Pass	
Aroclor-1232	mg/L	< 0.005	0.005	Pass	
Aroclor-1242	mg/L	< 0.005	0.005	Pass	
Aroclor-1248	mg/L	< 0.005	0.005	Pass	
Aroclor-1254	mg/L	< 0.005	0.005	Pass	
Aroclor-1260	mg/L	< 0.005	0.005	Pass	
Total PCB*	mg/L	< 0.005	0.005	Pass	
Method Blank					
Phenols (Halogenated)					
2-Chlorophenol	mg/L	< 0.003	0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003	0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01	0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01	0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003	0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01	0.01	Pass	
Pentachlorophenol	mg/L	< 0.01	0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03	0.03	Pass	
Method Blank	IIIg/L	\ 0.05	0.00	1 433	
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1	0.1	Pass	
2-Methyl-4.6-dinitrophenol			0.03	Pass	
· · · · · · · · · · · · · · · · · · ·	mg/L	< 0.03			
2-Nitrophenol	mg/L	< 0.01	0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003	0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03	0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003	0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006	0.006	Pass	
4-Nitrophenol	mg/L	< 0.03	0.03	Pass	
Dinoseb	mg/L	< 0.1	0.1	Pass	
Phenol	mg/L	< 0.003	0.003	Pass	
Method Blank					
Heavy Metals	1				
Arsenic (filtered)	mg/L	< 0.001	0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002	0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001	0.001	Pass	
Copper (filtered)	mg/L	< 0.001	0.001	Pass	
Lead (filtered)	mg/L	< 0.001	0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001	0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001	0.001	Pass	



Test	Units	Result 1	Acceptan Limits	ce Pass Limits	Qualifying Code
Method Blank					
Perfluoroalkyl sulfonamido substances- Trace					
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.005	0.005	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.005	0.005	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.005	0.005	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-					
MeFOSE)	ug/L	< 0.005	0.005	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.005	0.005	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.005	0.005	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.005	0.005	Pass	
Method Blank					
Perfluoroalkyl carboxylic acids (PFCAs) - Trace					
Perfluorobutanoic acid (PFBA)	ug/L	< 0.005	0.005	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.001	0.001	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.001	0.001	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.001	0.001	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.001	0.001	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.001	0.001	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.001	0.001	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.001	0.001	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.001	0.001	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.001	0.001	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.001	0.001	Pass	
Method Blank	ug/L	< 0.001	0.001	1 433	
Perfluoroalkyl sulfonic acids (PFSAs)- Trace		T			
` ` `	/1	.0.004	0.004		
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.001	0.001	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.001	0.001	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.001	0.001	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.001	0.001	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.001	0.001	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.001	0.001	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.001	0.001	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.001	0.001	Pass	
Method Blank					
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)- Trace					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.001	0.001	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.005	0.005	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.001	0.001	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.001	0.001	Pass	
LCS - % Recovery					
Ammonia (as N)	%	100	70-130	Pass	
Cyanide (total)	%	98	70-130	Pass	
Total Nitrogen (as N)	%	111	70-130	Pass	
LCS - % Recovery		•			
Total Recoverable Hydrocarbons		$\top$		$\top$	
TRH C6-C9	%	94	70-130	Pass	
TRH C10-C14	%	111	70-130	Pass	
Naphthalene	%	105	70-130	Pass	
TRH C6-C10	%	91	70-130	Pass	
TRH >C10-C16	%	122			
	70	122	70-130	Pass	<del>                                     </del>
LCS - % Recovery					
BTEX	2.			<del>-</del>	
Benzene	%	108	70-130	Pass	-
Toluene	%	102	70-130	Pass	
Ethylbenzene	%	105	70-130	Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	%	110	70-130	Pass	
o-Xylene	%	107	70-130	Pass	
Xylenes - Total*	%	109	70-130	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons					
Acenaphthylene	%	88	70-130	Pass	
Anthracene	%	99	70-130	Pass	
Benz(a)anthracene	%	70	70-130	Pass	
Benzo(a)pyrene	%	82	70-130	Pass	
Benzo(b&j)fluoranthene	%	70	70-130	Pass	
Benzo(g.h.i)perylene	%	76	70-130	Pass	
Benzo(k)fluoranthene	%	93	70-130	Pass	
Chrysene	%	89	70-130	Pass	
Dibenz(a.h)anthracene	%	83	70-130	Pass	
Fluoranthene	%	74	70-130	Pass	
Fluorene	%	84	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86	70-130	Pass	
Phenanthrene	% %	76	70-130	Pass	
Pyrene	% %	84	70-130	Pass	
LCS - % Recovery	/0	04	1 70-130	rass	
Polychlorinated Biphenyls	0/	7.4	70.400	D	
Aroclor-1016	%	74	70-130	Pass	
Aroclor-1260	%	73	70-130	Pass	
LCS - % Recovery		T	T		
Phenols (Halogenated)				_	
2-Chlorophenol	%	84	25-140	Pass	
2.4-Dichlorophenol	%	81	25-140	Pass	
2.4.5-Trichlorophenol	%	66	25-140	Pass	
2.4.6-Trichlorophenol	%	87	25-140	Pass	
2.6-Dichlorophenol	%	73	25-140	Pass	
4-Chloro-3-methylphenol	%	83	25-140	Pass	
Pentachlorophenol	%	108	25-140	Pass	
Tetrachlorophenols - Total	%	97	25-140	Pass	
LCS - % Recovery					
Phenols (non-Halogenated)					
2.4-Dimethylphenol	%	88	25-140	Pass	
2-Methylphenol (o-Cresol)	%	86	25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	75	25-140	Pass	
4-Nitrophenol	%	65	25-140	Pass	
Phenol	%	40	25-140	Pass	
LCS - % Recovery					
Heavy Metals					
Arsenic (filtered)	%	101	80-120	Pass	
Cadmium (filtered)	%	103	80-120	Pass	
Chromium (filtered)	%	103	80-120	Pass	
Copper (filtered)	%	102	80-120	Pass	
Lead (filtered)	%	97	80-120	Pass	
Mercury (filtered)	%	96	80-120	Pass	
Nickel (filtered)	%	101	80-120	Pass	
Zinc (filtered)	%	101	80-120	Pass	
LCS - % Recovery	70		00-120		
Perfluoroalkyl sulfonamido substances- Trace					
Perfluorooctane sulfonamide (FOSA)	%	93	50-150	Pass	
r emuoroociane sunonamue (FOSA)	70	30	50-150	г ass	



Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonami	de (N-EtFOSA)		%	83		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfor MeFOSE)	namido)-ethanol(N	-	%	91		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfona	mido)-ethanol(N-E	tFOSE)	%	107		50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoa	acetic acid (N-EtFC	DSAA)	%	91		50-150	Pass	
N-methyl-perfluorooctanesulfonamic	loacetic acid (N-Me	eFOSAA)	%	104		50-150	Pass	
LCS - % Recovery								
Perfluoroalkyl carboxylic acids (PF	CAs) - Trace							
Perfluorobutanoic acid (PFBA)			%	103		50-150	Pass	
Perfluoropentanoic acid (PFPeA)			%	91		50-150	Pass	
Perfluorohexanoic acid (PFHxA)			%	89		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)			%	88		50-150	Pass	
Perfluorooctanoic acid (PFOA)			%	89		50-150	Pass	
Perfluorononanoic acid (PFNA)			%	98		50-150	Pass	
Perfluorodecanoic acid (PFDA)			%	89		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)			%	130		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	)		%	96		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	)		%	99		50-150	Pass	
Perfluorotetradecanoic acid (PFTeD	A)		%	116		50-150	Pass	
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFS	As)- Trace							
Perfluorobutanesulfonic acid (PFBS)	)		%	72		50-150	Pass	
Perfluorononanesulfonic acid (PFNS	5)		%	100		50-150	Pass	
erfluoropropanesulfonic acid (PFPrS)			%	80		50-150	Pass	
Perfluoropentanesulfonic acid (PFPe	Perfluoropentanesulfonic acid (PFPeS)		%	79		50-150	Pass	
Perfluorohexanesulfonic acid (PFHx	S)		%	93		50-150	Pass	
Perfluoroheptanesulfonic acid (PFH)	oS)		%	88		50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	)		%	96		50-150	Pass	
Perfluorodecanesulfonic acid (PFDS	5)		%	86		50-150	Pass	
LCS - % Recovery				1	1	T	<u> </u>	
n:2 Fluorotelomer sulfonic acids (r								
1H.1H.2H.2H-perfluorohexanesulfor	,		%	96		50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfon			%	109		50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfor	nic acid (8:2 FTSA)		%	112		50-150	Pass	
1H.1H.2H.2H-perfluorododecanesul	fonic acid (10:2 FT	SA)	%	88		50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery					T I	T		
	<u> </u>			Result 1				
Chloride	S22-JI0008503	NCP	%	96		70-130	Pass	
Cyanide (total)	R22-Jn0064160	NCP	%	75		70-130	Pass	
Spike - % Recovery				T	T	T		
Total Recoverable Hydrocarbons				Result 1				
TRH C10-C14	S22-JI0011343	NCP	%	96		70-130	Pass	
TRH >C10-C16	S22-JI0011343	NCP	%	94		70-130	Pass	
Spike - % Recovery				T	T T	T	Ι	
Polycyclic Aromatic Hydrocarbons		T .		Result 1				
Anthracene	S22-Jn0062338	NCP	%	74		70-130	Pass	
Benz(a)anthracene	S22-Jn0062338	NCP	%	84		70-130	Pass	
Benzo(a)pyrene	S22-Jn0062338	NCP	%	72		70-130	Pass	
Benzo(k)fluoranthene	S22-Jn0062338	NCP	%	77		70-130	Pass	
Dibenz(a.h)anthracene	S22-Jn0062338	NCP	%	71		70-130	Pass	
Fluoranthene	S22-Jn0062338	NCP	%	74		70-130	Pass	
Phenanthrene	S22-Jn0062338	NCP	%	85		70-130	Pass	
Pyrene	S22-Jn0062338	NCP	%	81		70-130	Pass	



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Chlorinated Hydrocarbons				Result 1					
Hexachlorobenzene	B22-JI0002348	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S22-Jn0062338	NCP	%	94			70-130	Pass	
Aroclor-1260	S22-Jn0062338	NCP	%	104			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S22-JI0010053	NCP	%	105			75-125	Pass	
Cadmium (filtered)	S22-JI0010053	NCP	%	100			75-125	Pass	
Chromium (filtered)	S22-JI0010053	NCP	%	98			75-125	Pass	
Copper (filtered)	S22-JI0010053	NCP	%	95			75-125	Pass	
Lead (filtered)	S22-JI0010053	NCP	%	92			75-125	Pass	
Mercury (filtered)	S22-JI0010053	NCP	%	94			75-125	Pass	
Nickel (filtered)	S22-JI0010053	NCP	%	95			75-125	Pass	
Zinc (filtered)	S22-JI0010053	NCP	%	97			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S22-JI0008501	NCP	%	102			70-130	Pass	
Naphthalene	S22-JI0008501	NCP	%	104			70-130	Pass	
TRH C6-C10	S22-JI0008501	NCP	%	101			70-130	Pass	
Spike - % Recovery		1.12.	7-	131				1 3.00	
BTEX				Result 1					
Benzene	S22-JI0008501	NCP	%	102			70-130	Pass	
Toluene	S22-JI0008501	NCP	%	108			70-130	Pass	
Ethylbenzene	S22-JI0008501	NCP	%	102			70-130	Pass	
m&p-Xylenes	S22-JI0008501	NCP	%	106			70-130	Pass	
o-Xylene	S22-JI0008501	NCP	%	104			70-130	Pass	
Xylenes - Total*	S22-JI0008501	NCP	%	105			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate		100000							
				Result 1	Result 2	RPD			
2-Propanone (Acetone)	S22-JI0002595	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Ammonia (as N)	B22-Jn0069932	NCP	mg/L	0.04	0.07	45	30%	Fail	Q15
Cyanide (total)	S22-JI0002211	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	2.0
Total Nitrogen (as N)	S22-JI0001340	CP	mg/L	< 0.2	< 0.2	<1	30%	Pass	
Duplicate		<u> </u>	g, =	1 0.2	10.2		3070		
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-JI0002595	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S22-JI0011342	NCP	mg/L	< 0.02	< 0.05	<1	30%	Pass	
TRH C15-C28	S22-JI0011342	NCP	mg/L	0.5	0.5	13	30%	Pass	
TRH C29-C36	S22-JI0011342	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	S22-JI00011342	NCP	mg/L	< 0.01	< 0.11	<1	30%	Pass	
TRH C6-C10	S22-JI0002595	NCP	mg/L	< 0.01	< 0.02	<1	30%	Pass	
TRH >C10-C16	S22-JI0002393	NCP		0.12	0.13	11	30%	Pass	
TRH >C16-C34	S22-JI0011342	NCP	mg/L			19	30%	Pass	
			mg/L	0.2	0.3				
TRH >C34-C40	S22-JI0011342	NCP	mg/L	< 0.1	0.1	1.4	30%	Pass	
Duplicate				Docult 4	Dog::lk C	DDD			
O Dutarana (MEIO	000 110000505	NOD	n	Result 1	Result 2	RPD	2004	Desir	
2-Butanone (MEK)	S22-JI0002595	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	İ



Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-JI0002595	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S22-JI0002595	NCP	mg/L	< 0.001	< 0.001	<u> </u>	30%	Pass	
	S22-JI0002595	NCP		< 0.001	< 0.001	<u> </u>	30%	Pass	
Ethylbenzene m&p-Xylenes	S22-JI0002595	NCP	mg/L	< 0.001	< 0.001	<u> </u>	30%	Pass	
o-Xylene	S22-JI0002595	NCP	mg/L	< 0.002	< 0.002	<u> </u>	30%	Pass	
	S22-JI0002595	NCP	mg/L			<u> </u>	30%	1 1	
Xylenes - Total*	S22-JI0002595	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate Polycyclic Aromatic Hydrocarbor				Result 1	Result 2	RPD			
Acenaphthene	S22-Jn0062337	NCP	ma/l	< 0.001	< 0.001	<1	30%	Pass	
•		NCP	mg/L						
Acenaphthylene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S22-Jn0062337		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S22-Jn0062337	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate				T	1 1				
Chlorinated Hydrocarbons				Result 1	Result 2	RPD		-	
1.2-Dichlorobenzene	M22-JI0003011	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3-Trichlorobenzene	M22-JI0003011	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M22-JI0003011	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M22-JI0003011	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1 2 4 Trichlerchenzene	MADO HODODOMA	NCD	mg/L		. 0 005	<1	30%		
1.2.4-Trichlorobenzene	M22-JI0003011	NCP		< 0.005	< 0.005			Pass	
1.2.4.5-Tetrachlorobenzene	M22-JI0003011	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
		NCP NCP			1			1 1	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene	M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP	mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005	<1	30% 30% 30%	Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene	M22-JI0003011 M22-JI0003011	NCP NCP NCP	mg/L mg/L	< 0.005 < 0.005	< 0.005 < 0.005	<1 <1	30% 30%	Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene	M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP	mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005	<1 <1 <1	30% 30% 30%	Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1	30% 30% 30% 30%	Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1	30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1	30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobenzene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls Aroclor-1016	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls Aroclor-1016 Aroclor-1221	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls Aroclor-1016 Aroclor-1221 Aroclor-1232	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	
1.2.4.5-Tetrachlorobenzene 1.3-Dichlorobenzene 1.3.5-Trichlorobenzene 1.4-Dichlorobenzene Benzyl chloride Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Pentachlorobenzene  Duplicate Polychlorinated Biphenyls Aroclor-1211 Aroclor-1232 Aroclor-1242 Aroclor-1248	M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011 M22-JI0003011	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	< 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005	<1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	30% 30% 30% 30% 30% 30% 30% 30% 30% 30%	Pass Pass Pass Pass Pass Pass Pass Pass	



Duplicate									
•				Dogult 1	Result 2	RPD			
Heavy Metals	D00 110000400	NCD		Result 1			200/	Dana	
Arsenic (filtered)	R22-Jl0000129	NCP NCP	mg/L	< 0.001	< 0.001 < 0.0002	<1	30%	Pass	
Cadmium (filtered)	S22-JI0014476	NCP	mg/L	< 0.0002		<1	30% 30%	Pass	
Chromium (filtered)	R22-JI0000129	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	R22-JI0000129	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	R22-JI0000129	NCP	mg/L	< 0.001	< 0.001 < 0.0001	<1	30%	Pass	
Mercury (filtered) Nickel (filtered)	S22-Jl0014476 R22-Jl0000129	NCP	mg/L	< 0.0001		<1	30%	Pass	
,		NCP	mg/L	< 0.001 < 0.005	< 0.001	<1	30%	Pass	
Zinc (filtered)  Duplicate	R22-Jl0000129	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Perfluoroalkyl sulfonamido substa	noos Troos			Result 1	Result 2	RPD			
Perfluorooctane sulfonamide	iices- iiace			Result I	Nesuit 2	KFD			
(FOSA)	S22-JI0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-JI0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-JI0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-Jl0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane	022-010001340	OF	ug/L	0.003	< 0.005	<u> </u>	JU /0	1 455	
sulfonamido)-ethanol(N-EtFOSE)	S22-JI0001340	CP	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-ethyl- perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-JI0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
N-methyl- perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-Jl0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate				•					
Perfluoroalkyl carboxylic acids (PF	CAs) - Trace			Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S22-JI0001340	CP	ug/L	0.012	0.014	14	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S22-JI0001340	СР	ug/L	0.043	0.038	13	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S22-JI0001340	СР	ug/L	0.029	0.029	1.4	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-JI0001340	СР	ug/L	0.015	0.016	7.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-JI0001340	CP	ug/L	0.017	0.018	5.0	30%	Pass	
Perfluorononanoic acid (PFNA)	S22-JI0001340	CP	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-Jl0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-Jl0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate					1				
Perfluoroalkyl sulfonic acids (PFS	As)- Trace		T	Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S22-Jl0001340	СР	ug/L	0.005	0.005	1.7	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-Jl0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-JI0001340	СР	ug/L	0.002	0.002	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-JI0001340	СР	ug/L	0.003	0.002	4.0	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-JI0001340	СР	ug/L	0.011	0.011	1.2	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-Jl0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jl0001340	СР	ug/L	0.007	0.007	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-Jl0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	



Duplicate									
n:2 Fluorotelomer sulfonic acids (	n:2 FTSAs)- Trace			Result 1	Result 2	RPD			
1H.1H.2H.2H- perfluorohexanesulfonic acid (4:2 FTSA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H- perfluorooctanesulfonic acid(6:2 FTSA)	S22-JI0001340	СР	ug/L	< 0.005	< 0.005	<1	30%	Pass	
1H.1H.2H.2H- perfluorodecanesulfonic acid (8:2 FTSA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
1H.1H.2H.2H- perfluorododecanesulfonic acid (10:2 FTSA)	S22-JI0001340	СР	ug/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Sulphide (as S)	S22-JI0001342	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S22-JI0001343	СР	mg/L	600	590	1.4	30%	Pass	

#### Comments

### Sample Integrity

Custody Seals Intact (if used) N/A Attempt to Chill was evident Yes Sample correctly preserved Yes Appropriate sample containers have been used Yes Sample containers for volatile analysis received with minimal headspace Yes Samples received within HoldingTime Yes Some samples have been subcontracted No

#### **Qualifier Codes/Comments**

Code	Description

F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis). N01

Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

N02

F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. N04

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs N07

Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. N11

Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation). N15

Q09 The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Q15 The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

### Authorised by:

Analytical Services Manager Quinn Raw Gabriele Cordero Senior Analyst-Metal Jonathon Angell Senior Analyst-PFAS Joseph Edouard Senior Analyst-Organic Roopesh Rangarajan Senior Analyst-Organic Roopesh Rangarajan Senior Analyst-Volatile Ryan Phillips Senior Analyst-Inorganic Scott Beddoes Senior Analyst-Inorganic

Glenn Jackson **General Manager** 

Final Report - this report replaces any previously issued Report

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

<sup>-</sup> Indicates Not Requested

<sup>\*</sup> Indicates NATA accreditation does not cover the performance of this service

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Phone №	0457 304 854	**	are requested,	Contam 7 / TOC	Ë.	ols,		E.	ls (		Ę.	CHO!					Soil				-	Cont	ainers		-		Required T	urnaround Time
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Nº	Sample ID	Date/Time dd/mm/yy hh:		NEPM % Fe/		TRH,	Hex	PFAS FTSA	Poly	C S	Ace (Ace	Sem	Chloride	Sulp	Amn	Total	SPO	TRH	Plasti c	L Plasti c	L. Plesti c	Ambe r Glass	40mL VOA vial	PFAS Bottle	#DPE	Bags	/ Dangerous	s Goods Hazard arning
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5	BH05/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1				-				1	1		
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7	BH07/0.2		5	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1		
8	BH08/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1		
9	BH09/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1		
10	BH10/0.2 BH11/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1		
12	BH11/0.2		5	1	1	1	1	1	1	1	1	1	1	1	1	1									1	1		
13	BH12/0.2		5	1	1	1	1	1	1	1		1	_												1			
14	BH12/2.5		S			1	1	1	1	1	1	1	1	1	1	1	1								1	2		
15	BH13/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1								1	_		
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17	BH14/0.2		S	1	1	1	1	1	1	1	1	1	1	1	1	1	1						7.4.	- Donald	1	2			mig	_
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20	MW15/4.5		S			1	1			1		1													1			MW15 to		
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26	MW03/0.2		5	1	1	1	1	1	1	1	1	1	1	1	1	1	1								1	2	Renan	e MW03	to BH15	-
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28	QS01		S			1	1	1	1	1		1		9											1					
29	QS01A		S			1	1	1	1	1		1													1		PLS F	ND QS01	A to ALS	!!
30	QS02		S			1	1	1	1	1		1													1					
31	WC1		S			1																			1	1	24 hr TA	, no phenol	l, presence/a	bsence
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**Eurofins Environment Testing Australia Pty Ltd** 

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 Girraween NSW 2145
Phone: +61 3 8564 5000 Phone: +61 2 9900 84 NATA # 1261 Site # 1254

179 Magowar Road Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone: +61 2 4968 8448 NATA # 1261 Site # 25079 www.eurofins.com.au

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46-48 Banksia Road Welshpool WA 6106 Phone: +61 8 6253 4444 NATA # 2377 Site # 2370 EnviroSales@eurofins.com

NZBN: 9429046024954

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone: +64 9 526 45 51 IANZ # 1327

Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone: 0800 856 450 IANZ # 1290

### Sample Receipt Advice

Company name:

iEnvironmental Australia

Contact name:

Kristyn Numa

Project name:

CONCORD NSW CONDORD HS PSI AND DSI

Project ID: Turnaround time: 20220303 1 Day

Date/Time received

Jun 22, 2022 10:38 AM

**Eurofins reference** 

900777

### Sample Information

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

Please clarify if you would like asbestos presence/absence analysis on these samples. Only bags were received for these samples, analysis for suite B7 will have to be complete by subsampling. Please advise if you wish to proceed. The remaining samples on this COC will be logged soon.

### Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Asim Khan on phone: or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Kristyn Numa - kristyn.numa@ienvi.com.au.

Note: A copy of these results will also be delivered to the general iEnvironmental Australia email address.





Melbourne 6 Monterey Road Dandenong South VIC 3175 Girraween NSW 2145 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254

ABN: 50 005 085 521

Brisbane 179 Magowar Road 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 2 9900 8400 Phone: +61 7 3902 4600 NATA # 1261 Site # 18217 NATA # 1261 Site # 20794

Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone: +61 2 4968 8448 NATA # 1261 Site # 25079

ABN: 91 05 0159 898

Perth

Received:

**Priority:** 

**Contact Name:** 

Due:

Auckland 46-48 Banksia Road Welshpool WA 6106 Phone: +61 8 6253 4444 NATA # 2377 Site # 2370

NZBN: 9429046024954

Jun 23, 2022

Kristyn Numa

1 Day

Jun 22, 2022 10:38 AM

Christchurch 35 O'Rorke Road 43 Detroit Drive Rolleston, Christchurch 7675 Penrose, Auckland 1061 Phone: +64 9 526 45 51 Phone: 0800 856 450 IANZ # 1327 IANZ # 1290

**Company Name:** 

Address:

email: EnviroSales@eurofins.com

web: www.eurofins.com.au

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

**Project Name:** 

CONCORD NSW CONDORD HS PSI AND DSI

Project ID:

20220303

Order No.: Report #:

Fax:

**Eurofins Environment Testing Australia Pty Ltd** 

Sydney

900777

Phone: 1800 234 897 02 9911 4001

**Eurofins Analytical Services Manager: Asim Khan** 

		Sa	mple Detail			Asbestos - AS4964	Moisture Set	Eurofins Suite B7
Melb	ourne Laborate	ory - NATA # 12	61 Site # 125	4				
Sydr	ney Laboratory	- NATA # 1261	Site # 18217			Х	Х	Х
Brisl	oane Laborator	y - NATA # 1261	Site # 2079	4				
May	ield Laboratory	/ - NATA # 1261	Site # 25079	1				
		NATA # 2377 Sit	e # 2370					
	rnal Laboratory	1		1	_			
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	WC1	Not Provided		Soil	S22- Jn0058809	Х	Х	х
2	WC2	Not Provided		Soil	S22- Jn0058810	Х	Х	х
3	WC3	Not Provided		Soil	S22- Jn0058811	Х	Х	х
Test	Counts					3	3	3



### Certificate of Analysis

### **Environment Testing**

iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood NSW 2067





NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Kristyn Numa
Report 900777-AID

Project Name CONCORD NSW CONDORD HS PSI AND DSI

 Project ID
 20220303

 Received Date
 Jun 22, 2022

 Date Reported
 Jun 28, 2022

### Methodology:

Asbestos Fibre Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE. Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.

Subsampling Soil Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a subsampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestoscontaining material

(ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting

Date Reported: Jun 28, 2022

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 %" and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145

ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Report Number: 900777-AID

Page 1 of 6



Project Name CONCORD NSW CONDORD HS PSI AND DSI

**Project ID** 20220303

**Date Sampled** 

Date Reported: Jun 28, 2022

Report 900777-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
WC1	22-Jn0058809	not provided	Approximate Sample 40g Sample consisted of: Brown fine-grained clayey sandy soil, bitumen, brick, cement and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WC2	22-Jn0058810	not provided	Approximate Sample 52g Sample consisted of: Brown fine-grained clayey sandy soil, bitumen, brick, cement and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WC3	22-Jn0058811	not provided	Approximate Sample 36g Sample consisted of: Brown fine-grained clayey sandy soil, bitumen, brick, cement and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyJun 27, 2022Indefinite



#### **Eurofins Environment Testing Australia Pty Ltd**

Sydney

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Brisbane 179 Magowar Road 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 2 9900 8400 Phone: +61 7 3902 4600 NATA # 1261 Site # 18217 NATA # 1261 Site # 20794

Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone: +61 2 4968 8448 NATA # 1261 Site # 25079

ABN: 91 05 0159 898 NZBN: 9429046024954

Perth

Received:

**Priority:** 

**Contact Name:** 

Due:

46-48 Banksia Road Welshpool WA 6106 Phone: +61 8 6253 4444 NATA # 2377 Site # 2370

Auckland Christchurch 35 O'Rorke Road 43 Detroit Drive Rolleston, Christchurch 7675 Penrose, Auckland 1061 Phone: +64 9 526 45 51 Phone: 0800 856 450 IANZ # 1327 IANZ # 1290

**Company Name:** 

Address:

web: www.eurofins.com.au

email: EnviroSales@eurofins.com

iEnvironmental Australia Level 3, 465 Victoria Ave

Chatswood

NSW 2067

**Project Name:** 

CONCORD NSW CONDORD HS PSI AND DSI

Project ID:

20220303

Order No.: Report #:

Fax:

900777

Phone: 1800 234 897 02 9911 4001

**Eurofins Analytical Services Manager: Asim Khan** 

1 Day

Jun 22, 2022 10:38 AM

Jun 23, 2022

Kristyn Numa

		Sa	mple Detail			Asbestos - AS4964	Moisture Set	Eurofins Suite B7
Melb	ourne Laborat	ory - NATA # 12	61 Site # 125	4				
Sydr	ney Laboratory	- NATA # 1261 S	Site # 18217			Х	Х	Х
Brisl	oane Laborator	y - NATA # 1261	Site # 20794	1				
May	ield Laboratory	y - NATA # 1261	Site # 25079					
Perti	n Laboratory - I	NATA # 2377 Sit	e # 2370					
Exte	rnal Laboratory	<i>!</i>			_			
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	WC1	Not Provided		Soil	S22- Jn0058809	Х	х	Х
2	WC2	Not Provided		Soil	S22- Jn0058810	Х	Х	Х
3	WC3	Not Provided		Soil	S22- Jn0058811	х	х	Х
Test	Counts					3	3	3



### **Internal Quality Control Review and Glossary General**

- QC data may be available on request.
  All soil results are reported on a dry basis, unless otherwise stated.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with the colour blue indicates data provided by customer that may have an impact on the results
- Information identified on this report with the colour orange indicates sections of the report not covered by the laboratory's scope of NATA accreditation. This report replaces any interim results previously issued.

### **Holding Times**

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w) % w/w:

F/fld

Airborne fibre filter loading as Fibres (N) per Fields counted (n)
Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C) F/mL

Mass, e.g. of whole sample ( $\mathbf{M}$ ) or asbestos-containing find within the sample ( $\mathbf{m}$ ) Concentration in grams per kilogram g, kg

g/kg L. mL

Volume, e.g. of air as measured in AFM (V = r x t)
Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r) L/min

Time (t), e.g. of air sample collection period min

Calculations

 $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{p}\right) \times \left(\frac{1}{p}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{p}\right) \times \left(\frac{1}{p}\right)$ Airborne Fibre Concentration:

Asbestos Content (as asbestos):  $\% w/w = \frac{(m \times P_A)}{M}$ Weighted Average (of asbestos):  $\%_{WA} = \sum_{r} \frac{(m \times P_A)_x}{r}$ 

**Terms** 

Fibre Count

HSG248

Weighted Average

Date Reported: Jun 28, 2022

Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 Appendix 2, else assumed to be 15% in accordance with WA DOH Appendix 2 (P<sub>A</sub>). %asbestos

Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the ACM

NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.

Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable AF

material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable"

**AFM** Airborne Fibre Monitoring, e.g. by the MFM.

Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004. Amosite

AS Australian Standard.

Asbestos Content (as asbestos) Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w)

Chrysotile Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004

COC

Crocidolite Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.

Dry Sample is dried by heating prior to analysis.

DS Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.

Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become FA

friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.

Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003

Fibre ID Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.

Friable Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.

UK HSE HSG248, Asbestos: The Analysts Guide, 2nd Edition (2021).

HSG264 UK HSE HSG264, Asbestos: The Survey Guide (2012).

ISO (also ISO/IEC) International Organization for Standardization / International Electrotechnical Commission.

Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece K Factor

graticule area of the specific microscope used for the analysis (a).

Limit of Reporting. LOR

MFM (also NOHSC:3003) Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, Guidance Note on the Membrane

Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC:3003(2005)].

NEPM (also ASC NEPM) National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended). Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004. Organic

PCM Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.

ы м Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.

Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. SMF

SRA Sample Receipt Advice.

Trace Analysis Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.

UK HSE HSG United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication,

UMF Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004.

Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%wa).

May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos

WA DOH Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (updated 2021), including Appendix Four: Laboratory analysis

> Eurofins Environment Testing 179 Magowar Road, Girraween NSW, Australia, 2145 Page 5 of 6 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 900777-AID



#### Comments

The samples received were not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-samples to be analysed accurately represented the samples received.

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

### **Asbestos Counter/Identifier:**

Bennel Jiri Senior Analyst-Asbestos

### Authorised by:

Sayeed Abu Senior Analyst-Asbestos

Glenn Jackson General Manager

Final Report - this report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please  $\underline{\text{click here.}}$ 

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



iEnvironmental Australia Level 3, 465 Victoria Ave Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: Kristyn Numa

Report 900777-S

Project name CONCORD NSW CONDORD HS PSI AND DSI

Project ID 20220303
Received Date Jun 22, 2022

Client Sample ID			WC1	WC2	WC3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S22-Jn0058809	S22-Jn0058810	S22-Jn0058811
Date Sampled			Not Provided <sup>I12</sup>	Not Provided <sup>I12</sup>	Not Provided <sup>I12</sup>
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons		•			
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	72	< 50
TRH C29-C36	50	mg/kg	< 50	93	56
TRH C10-C36 (Total)	50	mg/kg	< 50	165	56
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	130	< 100
TRH >C34-C40	100	mg/kg	< 100	110	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	240	< 100
BTEX	•				
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	65	57	110
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Report Number: 900777-S



Client Sample ID Sample Matrix Eurofins Sample No.				WC2 Soil S22-Jn0058810	
Date Sampled			Not Provided <sup>112</sup>	Not Provided <sup>I12</sup>	Not Provided <sup>112</sup>
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	111	121	119
p-Terphenyl-d14 (surr.)	1	%	121	119	121
Heavy Metals					
Arsenic	2	mg/kg	9.9	7.2	8.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	25	19	20
Copper	5	mg/kg	24	18	17
Lead	5	mg/kg	37	32	36
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.0	6.7	5.7
Zinc	5	mg/kg	55	43	41
% Moisture	1	%	11	13	13

Report Number: 900777-S



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	<b>Holding Time</b>
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jun 27, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 27, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jun 27, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jun 27, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Jun 27, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Jun 27, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Jun 27, 2022	14 Days

Report Number: 900777-S



#### **Eurofins Environment Testing Australia Pty Ltd**

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Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone: +61 2 4968 8448 NATA # 1261 Site # 25079

ABN: 91 05 0159 898

Perth

Priority:

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Chatswood

NSW 2067

**Project Name:** 

CONCORD NSW CONDORD HS PSI AND DSI

Project ID:

20220303

Order No.: Report #:

900777 1800 234 897

Phone: 02 9911 4001 Fax:

Received: Jun 22, 2022 10:38 AM Due:

Jun 23, 2022 1 Day

NZBN: 9429046024954

Auckland

IANZ # 1327

**Contact Name:** Kristyn Numa

**Eurofins Analytical Services Manager: Asim Khan** 

Sample Detail								Eurofins Suite B7	
Melb	ourne Laborato	ory - NATA # 12	61 Site # 125	4					
Sydr	ney Laboratory	- NATA # 1261 S	Site # 18217			Х	Х	Х	
Brist	pane Laborator	y - NATA # 1261	Site # 20794	1					
Mayf	ield Laboratory	· - NATA # 1261	Site # 25079						
Pertl	n Laboratory - N	NATA # 2377 Sit	e # 2370						
Exte	rnal Laboratory	'			_				
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
1 WC1 Not Provided Soil S22- Jn0058809								Х	
2 WC2 Not Provided Soil S22- Jn0058810								Х	
3									
Test	Counts					3	3	3	



#### **Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis.
- 8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 9. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram mg/L: micrograms per litre µg/L: micrograms per litre

org/100 mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100 mL: Most Probable Number of organisms per 100 millilitres

#### **Terms**

APHA American Public Health Association

COC Chain of Custody

CP Client Parent - QC was performed on samples pertaining to this report

CRM Certified Reference Material (ISO17034) - reported as percent recovery.

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

LOR Limit of Reporting.

Laboratory Control Sample - reported as percent recovery.

Method Blank

In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

NCP

Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

SPIKE Addition of the analyte to the sample and reported as percentage recovery

SRA Sample Receipt Advice

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

TBTO Tributyltin oxide (bis-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured

and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.

TCLP Toxicity Characteristic Leaching Procedure
TEQ Toxic Equivalency Quotient or Total Equivalence

QSM US Department of Defense Quality Systems Manual Version 5.4

US EPA United States Environmental Protection Agency

WA DWER Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

#### QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30% NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

### **QC Data General Comments**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 4. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- 5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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### **Quality Control Results**

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Total Recoverable Hydrocarbons					
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank	, ,				
втех					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3	0.3	Pass	
Method Blank		<b>V</b> 0.0	0.0	1 400	
Polycyclic Aromatic Hydrocarbons				Ι	
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Total PAH*	mg/kg	-	0.5	N/A	
Method Blank		<u> </u>		I	
Heavy Metals	İ				
Arsenic	mg/kg	< 2	2	Pass	
Cadmium	mg/kg	< 0.4	0.4	Pass	
Chromium	mg/kg	< 5	5	Pass	
Copper	mg/kg	< 5	5	Pass	
Lead	mg/kg	< 5	5	Pass	
Mercury	mg/kg	< 0.1	0.1	Pass	
Nickel	mg/kg	< 5	5	Pass	
Zinc	mg/kg	< 5	5	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons					
TRH C6-C9	%	94	70-130	Pass	
TRH C10-C14	%	72	70-130	Pass	

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Test			Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene			%	83	70-130	Pass	
TRH C6-C10			%	94	70-130	Pass	
TRH >C10-C16	TRH >C10-C16			70	70-130	Pass	
LCS - % Recovery							
втех							
Benzene			%	87	70-130	Pass	
Toluene			%	93	70-130	Pass	
Ethylbenzene			%	91	70-130	Pass	
m&p-Xylenes			%	91	70-130	Pass	
o-Xylene			%	95	70-130	Pass	
Xylenes - Total*			%	92	70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons	S						
Acenaphthene			%	76	70-130	Pass	
Acenaphthylene			%	79	70-130	Pass	
Anthracene			%	77	70-130	Pass	
Benz(a)anthracene			%	81	70-130	Pass	
Benzo(a)pyrene			%	77	70-130	Pass	
Benzo(b&j)fluoranthene			%	71	70-130	Pass	
Benzo(g.h.i)perylene			%	81	70-130	Pass	
Benzo(k)fluoranthene			%	75	70-130	Pass	
Chrysene			%	85	70-130	Pass	
Dibenz(a.h)anthracene			%	88	70-130	Pass	
Fluoranthene			%	82	70-130	Pass	
Fluorene			%	84	70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	87	70-130	Pass	
Naphthalene			%	77	70-130	Pass	
Phenanthrene			%	77	70-130	Pass	
Pyrene			%	83	70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic			%	92	80-120	Pass	
Cadmium			%	93	80-120	Pass	
Chromium			%	97	80-120	Pass	
Copper			%	98	80-120	Pass	
Lead			%	97	80-120	Pass	
Mercury			%	97	80-120	Pass	
Nickel			%	93	80-120	Pass	
Zinc	1		%	91	80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Total Recoverable Hydrocarbons				Result 1			
TRH C6-C9	N22-Jn0045948	NCP	%	87	70-130	Pass	
Naphthalene	N22-Jn0045948	NCP	%	77	70-130	Pass	
TRH C6-C10	N22-Jn0045948	NCP	%	88	70-130	Pass	
Spike - % Recovery							
втех	1			Result 1		1	
Benzene	N22-Jn0045948	NCP	%	87	70-130	Pass	
Toluene	N22-Jn0045948	NCP	%	88	70-130	Pass	
Ethylbenzene	N22-Jn0045948	NCP	%	88	70-130	Pass	
m&p-Xylenes	N22-Jn0045948	NCP	%	94	70-130	Pass	
o-Xylene	N22-Jn0045948	NCP	%	93	70-130	Pass	
Xylenes - Total*	N22-Jn0045948	NCP	%	94	70-130	Pass	
Spike - % Recovery							



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals	•			Result 1					
Arsenic	S22-Jn0052377	NCP	%	82			75-125	Pass	
Cadmium	S22-Jn0052377	NCP	%	91			75-125	Pass	
Chromium	S22-Jn0052377	NCP	%	94			75-125	Pass	
Copper	S22-Jn0052377	NCP	%	98			75-125	Pass	
Lead	S22-Jn0053368	NCP	%	102			75-125	Pass	
Mercury	S22-Jn0052377	NCP	%	96			75-125	Pass	
Nickel	S22-Jn0052377	NCP	%	101			75-125	Pass	
Zinc	S22-Jn0053368	NCP	%	107			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate		Source					Lillits	Lillius	Code
Total Recoverable Hydrocarbo	ins			Result 1	Result 2	RPD			
TRH C6-C9	N22-Jn0045633	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S22-Jn0054615	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
	S22-Jn0054615								
TRH C15-C28 TRH C29-C36	S22-Jn0054615	NCP NCP	mg/kg	< 50 < 50	< 50 < 50	<1 <1	30%	Pass Pass	
			mg/kg	l					
Naphthalene	N22-Jn0045633	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	N22-Jn0045633	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S22-Jn0054615	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Jn0054615	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S22-Jn0054615	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate				1	<del> </del>		1		
BTEX				Result 1	Result 2	RPD			
Benzene	N22-Jn0045633	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	N22-Jn0045633	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	N22-Jn0045633	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	N22-Jn0045633	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	N22-Jn0045633	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	N22-Jn0045633	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarl	oons			Result 1	Result 2	RPD			
Acenaphthene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&i)fluoranthene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Jn0043300	NCP		1		<1 <1	30%		
	S22-Jn0043300 S22-Jn0043300		mg/kg	< 0.5	< 0.5			Pass	
Fluorene		NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S22-Jn0043300	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate							1		
Heavy Metals	1 -	1 .		Result 1	Result 2	RPD		_	
Arsenic	S22-Jn0050568	NCP	mg/kg	38	38	2.0	30%	Pass	
Cadmium	S22-Jn0050568	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Jn0050568	NCP	mg/kg	23	23	2.0	30%	Pass	
Copper	S22-Jn0050568	NCP	mg/kg	6.7	7.0	5.0	30%	Pass	
Lead	S22-Jn0050568	NCP	mg/kg	< 5	< 5	<1	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury	S22-Jn0050568	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Jn0050568	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S22-Jn0050568	NCP	mg/kg	9.5	9.7	2.0	30%	Pass	
Duplicate									
Result 1 Result 2 RPD									
% Moisture	S22-Jn0058528	NCP	%	15	17	13	30%	Pass	



#### Comments

### Sample Integrity

Custody Seals Intact (if used) N/A Attempt to Chill was evident Yes Sample correctly preserved Yes Appropriate sample containers have been used Nο Sample containers for volatile analysis received with minimal headspace Yes Samples received within HoldingTime N/A Some samples have been subcontracted No

#### **Qualifier Codes/Comments**

Code Description

112 Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).

N01

Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed N02

all QAQC acceptance criteria, and are entirely technically valid.

F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. N04

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs N07

#### Authorised by:

Asim Khan Analytical Services Manager Sayeed Abu Senior Analyst-Asbestos Gabriele Cordero Senior Analyst-Metal Roopesh Rangarajan Senior Analyst-Volatile Roopesh Rangarajan Senior Analyst-Organic

Glenn Jackson **General Manager** 

Final Report - this report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here

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Report Number: 900777-S

Detailed Site Investigation - Concord High School 2.0

3 Stanley Street, Concord NSW 2137

Reference: 20220303



# Appendix J. Asbestos In Grounds Management Plan (WSP, 2020) and Site Asbestos Register

# NSW DEPARTMENT OF EDUCATION C/O - PUBLIC WORKS ADVISORY

# CONCORD HIGH SCHOOL ASBESTOS IN GROUNDS MANAGEMENT PLAN

JUNE 2020 CONFIDENTIAL



# Question today Imagine tomorrow Create for the future

# Concord High School Asbestos in Grounds Management Plan

NSW Department of Education C/o - Public Works Advisory

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REV	DATE	DETAILS
1	16/06/2020	First Issue

	NAME	DATE	SIGNATURE
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Reviewed by:	Matthew Murray	16/06/2020	MA
Approved by:	Matthew Murray	16/06/2020	1911

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# **DEFINITIONS**

ACM Asbestos containing material

exposure to asbestos and the effectiveness of implemented control measures. It must be conducted in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust, 2<sup>nd</sup> Edition [NOHSC: 3003]

(2005)].

It is a DoE requirement that air monitoring is a requirement when any form of

asbestos disturbance works is undertaken.

AMD Asset Management Directorate (DoE state office)

AMP Asbestos Management Plan

AMU Asset Management Unit (DoE regional office)

Asbestos Defined as the fibrous form of mineral silicates; belonging to the serpentine and

amphibole groups of rock-forming minerals, including actinolite, amosite, crocidolite, chrysotile, anthophyllite, tremolite, or any mixture containing one or

more of these.

Asbestos Assessor A person who is SafeWork NSW licensed in accordance with the regulations for air

monitoring, clearance inspections or the issuing of clearance certificates for class A

asbestos removal work.

Class A Licensed

Asbestos Removalist

Contaminated Land

Management Act

Contaminated

As per Part 8.10 of the WHS Regulations, a contractor, SafeWork NSW licensed to

remove all types and quantities of asbestos.

Contaminated Land Management Act 1997

Contaminated Land Management Regulation 2013

Class B Licensed Asbestos Removalist As per Part 8.10 of the WHS Regulations, a contractor, SafeWork NSW licensed to remove any amount of non-friable asbestos or ACM.

Assessos Removanst Temove any amount of non-maste assessos of Activities

Competent person For a clearance inspection under clause 473 – *A person who has acquired through training or experience, the knowledge and skills and is able to carry out a clearance* 

inspection:

a. a certification in relation to the specified VET course for asbestos assessor  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ 

work, or

b. b. a tertiary qualification in work health and safety, occupational hygiene,

science, building, construction or environmental health.

DoE Department of Education

Facility manager Person with responsibility for the DoE Facility or a suitably appointed delegate

Fibrous cement Cement based building material containing reinforcement of either asbestos or non-

asbestos fibres. Trade names include but are not limited to Super Six, Hardiflex,

Hardiplank and Villaboard.

Friable asbestos Any material that contains asbestos and is in a powder form or can be crumbled,

pulverised or reduced to powder by hand pressure when dry.

Hygienist Note: for the purpose of this plan, the hygienist will also be a competent person /

asbestos assessor / SafeWork NSW accredited licensed asbestos assessor as defined

by regulations and selected from DoE hygienist panel.

Hygienist panel (contract)

A Public Works contract that provides a panel of three contractors for the supply of occupational hygienist services to DoE for the management of assets to ensure compliance with the relevant legislation, including the NSW Work Health and

Safety (WHS) Regulation 2017, particularly as this related to asbestos.

Licensed asbestos

removalist

Means a person conducting a business or undertaking who is SafeWork NSW licensed under the WHS Regulations to carry out class A or class B asbestos removal work.

Non-friable asbestos Means material containing asbestos that is not friable asbestos, including material

containing asbestos fibres reinforced with a bonding compound.

NSW EPA New South Wales Environment Protection Authority

Permit to work A Permit to work authority will need to be issued to and signed by the contractor,

acknowledging presence of asbestos containing materials in the work area/s identified in the register prior to commencing work. The contractor is to indicate the control measures to be used. Permit to work authorities will only be issued by

the DoE Facility Manager.

PCBU Person conducting a business or undertaking

POEO Protection of the Environment Operations (POEO) Act

PWA Public Works Advisory, a division of Department of Finance, Services and

Innovation

SSAMP Site specific Asbestos Management Plan; also known as Asbestos in Grounds

Management Plan

WHS Act NSW Work Health and Safety Act 2011

WHS Regulation NSW Work Health and Safety Regulation 2017

# 1 INTRODUCTION

# 1.1 BACKGROUND

Since 2003 NSW Department of Education (DoE) has had a separate Fibro in Grounds program to address school sites that have grounds asbestos related issues, these are typically fragments of non-friable AC (asbestos containing), FC (fibre cement) fragments.

# 1.2 SCOPE

WSP Australia Pty Limited (WSP) was engaged by NSW Department of Education (DoE) C/o - Public Works Advisory (the Client) to produce this Site Specific Asbestos Management Plan (SSAMP) for Concord High School (the site).

The SSAMP has been developed to address DoE's obligations under the NSW Work Health and Safety Regulation 2017 and NSW Work Health and Safety Act 2011 as it relates to the presence of asbestos in grounds, by managing and minimising asbestos related health risks to personnel working on or visiting the site.

This SSAMP is to be read in conjunction with any existing asbestos register for the site and the overarching Asbestos Management Plan (AMP) for NSW Government Schools.

# 1.3 OBJECTIVES

The SSAMP details the approach to be taken by the DoE in managing asbestos in grounds by documenting procedures designed to minimise the risk of exposure to asbestos of all personnel on the site, including all DoE and Public Works Advisory personnel, teaching staff, maintenance staff, students, maintenance contractors and other visitors.

The SSAMP contains the following information:

- scope and limitations of the SSAMP
- asbestos related regulatory requirements
- organisational responsibilities
- details of in-ground asbestos containing materials (ACM) when previous ACM ground works have been undertaken
- an asbestos in grounds register for already known asbestos issued detected on the site
- overview of the risk assessment process
- management of in-situ asbestos containing materials in grounds
- emergency response procedures
- safe working practices
- training, and
- requirements for asbestos removal.

The SSAMP should be updated where there is a reoccurrence of asbestos in grounds, when an asbestos Clearance Certificate is produced or remediation works completed.

# 2 REGULATORY FRAMEWORK

This SSAMP has been developed in accordance with the following applicable legislation and codes of practice:

- Contaminated Land Management Act 2008
- Contaminated Land Management Regulation 2013
- NSW Work Health and Safety Act 2011
- NSW Work Health and Safety Regulation 2017
- How to Manage and Control Asbestos in the Workplace: Code of Practice 2016
- How to Safely Remove Asbestos: Code of Practice 2016
- NSW EPA Waste Classification Guidelines Part 1: Classification of waste 2014
- Protection of the Environment Operations Act 1997

# 3 RESPONSIBILITIES

The DoE, as a person with management or control of a workplace (PCBU) has an obligation under Part 8.3 of the NSW Work Health and Safety Regulation 2017 to assess the risk of harm to the health and safety of any person arising from asbestos hazards.

Those responsible for the management of DoE facilities and Contractors are duty holders who have a duty of care. Each duty holder is required to comply with all relevant NSW legislation.

This SSAMP is designed for all duty holders where asbestos and asbestos containing materials may be present in grounds. Duty holders include those responsible for the management of DoE facilities, such as:

- school principal
- AMU managers
- asset management directorate
- workers including voluntary staff, and
- contractors.

# 4 ASBESTOS IN GROUNDS

# 4.1 ASBESTOS IN GROUNDS OCCURRENCES

A summary of asbestos in grounds occurrences and remediation works completed is provided in Table 4.1.

Table 4.1 Asbestos in Grounds Occurrences at Concord High School

DATE	AREA	LOCATION	INCIDENT	REMEDIAL MEASURE / TREATMENT	COMMENT
January 2008	A	Unofficial car parking area Southwest of the main hall.	Non-friable fibre cement fragments were observed on the ground surface.	portion. An asbestos clearance certificate was provided following the successful remediation works.	Maintain existing surface/ new surface. Do not disturb soil surface. Inspect every three months or after adverse weather conditions for signs of surface wear and possible fragments at surface.  Topsoil has become exposed in an area where asbestos containing materials may be present below clean soils/clean fill.

DATE	AREA	LOCATION	INCIDENT	REMEDIAL MEASURE / TREATMENT	COMMENT
December 2014/January 2015	В	Main Play field.	Non-friable fibre cement fragments were observed on the ground surface.	A sparrow pick was performed on the visibly accessible ground surface portion. An asbestos clearance certificate was provided following the successful remediation works.	Maintain the new surface, especially the edges of the field. Do not disturb the soil surface. Inspect regularly to make sure that the grass layer is in good condition, and take steps to remediate damaged turf quickly to prevent exposure of the soil beneath.  Special care must be taken to prevent the damage of the turf at the edges of the field (2m in) as the geofabric layer does not extend that far.  Topsoil has become exposed in an area where asbestos containing materials may be present below clean soils/clean fill.

The approximate location of each area is detailed on the Site Plan in Appendix A.

# 4.2 ASBESTOS IN GROUNDS REGISTER

The location, type and condition of asbestos identified in grounds at the school is recorded in the asbestos in grounds register detailed in Table 4.2. The accompanying risk assessment has been performed following remediation works in accordance with the DoE AMP.

Table 4.2 Asbestos in Grounds Register for Concord High School

AREA	LOCATION*	MATERIAL DESCRIPTION	EXTENT	MATERIAL CONDITION	RISK STATUS^	CONTROL PRIORITY	MAINTENANCE REQUIREMENTS
A	Unofficial car parking area Southwest of the main hall.	Non-friable fibre cement fragments were observed on the ground surface.	Throughout – potential below ground surface.	Unknown	Low	Low	Visual checks to ensure grass cover is adequate at three-monthly intervals. Periodic resting of area may be required otherwise turf will require re-laying if the surface becomes eroded. Adequate watering during drought periods (this option may not be suitable during periods of extended drought when reservoir levels drop below 40%)
В	Main Play field.	Non-friable fibre cement fragments were observed on the ground surface.	Throughout – potential below ground surface.	Unknown	Low	Low	Visual checks to ensure grass cover is adequate at three-monthly intervals. Periodic resting of area may be required otherwise turf will require re-laying if the surface becomes eroded. Adequate watering during drought periods (this option may not be suitable during periods of extended drought when reservoir levels drop below 40%)

AREA	LOCATION*	MATERIAL DESCRIPTION	EXTENT	MATERIAL CONDITION	RISK STATUS^	CONTROL PRIORITY	MAINTENANCE REQUIREMENTS
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<sup>\*</sup> Refer to Appendix A – Site Plan for details of area locations

#### RISK ASSESSMENT FACTORS

Low Risk: Asbestos containing materials that pose a low health risk to personnel, employees and the general public providing they remain undisturbed.

Medium Risk: Asbestos containing materials that pose a moderate risk to people in the area – there is a medium potential for the material to release asbestos fibres if disturbed.

**High Risk:** Asbestos containing materials that pose a high health risk to personnel of the public in area of the material. There is a high potential for the material to release asbestos fibres if disturbed, or a potential for the materials to release fibres even if undisturbed.

<sup>^</sup> Risk assessment conducted following remediation works

# 5 SITE MANAGEMENT REQUIREMENTS

# 5.1 RE-INSPECTIONS

In order to monitor the effectiveness of onsite management it is essential that the affected areas are regularly inspected. Visual inspections of the asbestos remedial measures should be carried out to ensure that they are maintained adequately. Reinspections will be the responsibility of the Principal or site manager. Such inspections should occur on the following occasions:

- at three monthly intervals (e.g. a walkover of remediated areas to ensure that applications of mulch, turf, etc. have been maintained)
- as part of routine building inspections
- after a period of prolonged heavy rain (e.g. a walkover of remediated areas to ensure that applications of mulch, turf,
   etc. have not been disturbed by heavy rain)
- whenever damage or disturbance has been reported (e.g. a walkover of remediated areas to ensure that applications of mulch, turf, etc. have not been disturbed by events such as vehicle trafficking).

Should areas of exposed soil or geo-fabric be identified where previous containment has occurred or where encapsulating encapsulating measures appear to be damaged or are no longer effective, then these areas should be re-covered immediately. Some remedial measures, such as added surface layers of mulch and topsoils, will require ongoing maintenance to ensure that a sufficient barrier layer is in place.

Some sites, for example those with no new occurrence of asbestos in the past 5 years, are inspected at 12-monthly intervals and/or as points indicated above.

Records of these inspections should be kept using the Site Management Requirements checklists provided in Appendix B.

# 5.2 ASBESTOS INCIDENT PROCEDURE

This asbestos incident procedure aims to set out the steps to be taken for asbestos management when suspected ACMs have been found in DoE Facility grounds. Scenarios where suspected ACMs may be found in DoE Facility grounds include:

- Illegal dumping of suspected asbestos waste dumped asbestos waste can be mixed with general builders' waste, which may include rubble and spoil.
- Single source at surface such as fibrous cement sheeting this is usually due to demolition of a structure containing asbestos such as a building or fence where waste has been left at the surface or buried instead of being properly disposed of.
- Extensive surface contamination this can be as a result of imported waste materials (schools may also be situated on
  old landfill sites) used for landscaping or from demolition of domestic dwellings previously found on the site, with
  fibrous cement fragments becoming exposed over time due to surface erosion and soil dynamics, or due to demolition
  of structures containing ACM.
- Fill materials fill materials have been widely used in DoE Facilities, typically for landscaping / levelling purposes. Fill may also be present in building footprints. Fill generally comprises builders' rubble, typically bricks, although older fill often contains waste fibrous cement materials in addition to other building materials. Fill may also be generated on-site to build up depressions or level grounds.

In-ground asbestos cement pipes – it is possible that asbestos cement drainage pipes may be present in-situ within the ground at DoE facilities. While such materials remain buried and in operation they represent a low risk.

The following procedure is set out as a guide to follow where suspected ACMs have been found at the surface of DoE Facility grounds:

- Restrict access immediately.
- Do not attempt to dispose of / move material.
- Check asbestos in grounds asbestos register.
- Contact DoE AMU on 132 779 as soon as practicable and Incident Report and Support Hotline on 1800 811 523.
- DoE or their representatives will arrange inspections and testing if necessary by consultant from DoE hygienist panel.
- DoE or their representatives to arrange removal of ACMs / remediation of site.
- Once asbestos removal or remediation works have been completed, an asbestos clearance certificate will be issued to return area to normal use.
- Site specific AMP is updated to enter area into asbestos in grounds register.

# **6 SAFE WORKING PRACTICES**

# 6.1 GENERAL

Prior to commencing any works to grounds on any DoE facility, the asbestos in grounds register on-site must be consulted to determine if any known asbestos containing materials are present that are at risk of being disturbed (https://education.nsw.gov.au/about-us/strategies-and-reports/our-reports-and-reviews/schools-asbestos-register).

If documented asbestos containing materials are present in the area and may be impacted upon by the proposed works, the asbestos must be removed/encapsulated under controlled conditions prior to the commencement of any works.

If unknown materials or undocumented materials suspected of containing asbestos are encountered during works, such materials are to be treated as if they contain asbestos and any work that may impact on that material must immediately cease, pending sampling and analysis by a qualified person selected from the DoE hygienist panel. This will allow the DoE to determine what control methods are required.

# 6.2 PERMIT TO WORK

If it is determined, after consulting the asbestos in grounds register, that asbestos containing materials are present in the vicinity of the planned works, a permit to work authority will need to be issued to, and signed by, the contractor. Permit to work authorities will only be issued by the DoE Facility Manager. All asbestos works must be managed by an agent of DoE, such as Department of Public Works, following approval from the directorate. All asbestos works are to be undertaken outside of school hours.

Before being issued with a permit to work, individuals will be required to read and understand this SSAMP as well as copies of asbestos removal control plans or risk assessments prepared by DoE hygienist panel members. Individuals must be aware of their legal obligations in relation to health and safety specified in the NSW Work Health and Safety Act 2011 and the NSW Work Health and Safety Regulation 2017.

Workers engaged in the removal of asbestos and asbestos containing materials will not be issued with a permit to work unless they are employed by a company holding an asbestos removal licence issued by SafeWork NSW appropriate for the type of asbestos containing materials concerned.

The permit to work formally places a responsibility for compliance with this SSAMP and the NSW Work Health and Safety Regulation 2017 on the signatories.

The permit to work is designed to ensure appropriate work practices are employed in the vicinity of asbestos containing materials. The permit to work will document what asbestos is to be removed, encapsulated or otherwise protected, prior to the contracted maintenance or building works proceeding. The permit to work will also indicate whether other requirements such as use of personal protective equipment (PPE), the installation of barricading and airborne fibre monitoring are necessary and may provide recommendation for further consultation, sampling or investigation by a member of the DoE hygienist panel prior to permit and contract finalisation.

When a project involves a team of more than one worker, the person in charge of the team will be issued with the permit to work. That person will be responsible to ensure their workers are aware of their responsibilities. That person will also be responsible to ensure that each worker's signature appears on the appropriate section of the permit.

When work is completed, or the permit to work expires (whichever occurs first), the permit shall be signed by the contractor and returned to the DoE Facility Manager to cancel it after ensuring that a safe situation exists. The DoE Facility Manager shall review any documentation provided by the DoE hygienist panel member, such as asbestos air monitoring and asbestos clearance inspection certificate/s, and inspect the work area to ensure that it is fit for purpose prior to returning it to normal use. The AMU can provide assistance if required.

The DoE Asset Management Directorate shall be advised immediately by any site personnel of any incidents of non-compliance with the SSAMP that have occurred.

The DoE Facility Manager will maintain a register of all permits to work that have been issued and cancelled.

It will be a condition of engagement of contractors who are required to work on-site that a permit to work be issued and cancelled as required.

# 6.3 CONTRACTOR HEALTH AND SAFETY

Prior to undertaking any work that involves the removal, repair or disturbance of asbestos containing materials, a Safe Work Method Statement (SWMS) will be prepared that defines safe procedures to protect the health and safety of personnel. This statement should include the following measures, as a minimum:

- confirmation of their review of the relevant asbestos register, asbestos removal control plan and other relevant documentation, prior to preparation of the SWMS.
- review of risks associated with their possible exposure to asbestos or ACMs.
- all workers shall wear appropriate Personal Protective Equipment (PPE) for the work undertaken. This may include
  protective coveralls, gloves and safety boots.
- all workers shall wear appropriate Respiratory Protective Equipment (RPE) for the work undertaken.
- decontamination procedures and measures (if applicable).
- asbestos removal areas and buffer zones.
- asbestos air monitoring samples (number and frequency).

In addition,

- a reference to all appropriate licences and insurances held by the contractor should be included.
- a reference as an additional safety measure, that all works are to be undertaken outside school hours, should be included. Appropriate measures are to be included regarding this requirement.

The Safe Work Method Statement (SWMS) should be reviewed by the Agent of DoE that engages the contractor as per the requirements of the permit to work.

## 6.4 AWARENESS TRAINING

It is best practice that DoE Asset Management personnel and Facilities Maintenance Contractors who are not likely to be exposed to asbestos but work in areas where asbestos is, or may be present, in grounds be provided with an asbestos awareness training. It is recommended that such training shall include the following:

- overview of asbestos related legislation (State), standards and codes of practice.
- information on the presence of asbestos in DoE Facility grounds, including the types of asbestos and typical locations where asbestos may be encountered
- information should be provided on the differences between friable and non-friable products
- highlighting the need to avoid disturbing in-situ asbestos containing materials
- procedures to be followed in the event disturbed asbestos containing materials are identified, or unknown materials / products suspected of containing asbestos are encountered, including the relevant point of contact within the DoE
- information about general methods of asbestos management and removal

<ul> <li>information about airborne asbestos air monitoring.</li> </ul>								
Asbestos awareness training is to be provided by a consultant selected from the DoE hygienist panel.								

# 7 ASBESTOS REMOVAL

A detailed and site specific work scope and technical specification will be developed by an agent of DoE or their representative, such as PWA, prior to the removal of ACMs from any DoE facility grounds. The removal of ACMs shall be performed by a licensed asbestos removal contractor selected from the DoE hygienist panel (i.e. the appropriate licence for the removal of asbestos issued by SafeWork NSW).

Please note, any work that involves disturbing asbestos must be administered by DoE or their representative.

It is DoE policy to engage a Class A licensed contractor as best practice for all occurrences of asbestos contaminated soil. The contractor will be engaged by an agent of DoE from a panel approved by DoE and all engagements will be according to SafeWork NSW guidelines and follow the advice of the hygienist / competent (asbestos assessor) person engaged from the DoE hygienist panel.

# 7.1 ASBESTOS IN GROUNDS GENERAL REMOVAL PROCEDURES

All works carried out that involves disturbance of ACMs (including removal) must be administered by DoE or their representative.

All removals are to be undertaken according to:

- Contaminated Land Management Act 2008
- Contaminated Land Management Regulation 2013
- NSW Work Health and Safety Act 2011
- NSW Work Health and Safety Regulation 2017
- How to Manage and Control Asbestos in the Workplace: Code of Practice 2016
- How to Safely Remove Asbestos: Code of Practice 2016
- NSW EPA Waste Classification Guidelines Part 1: Classification of waste 2014
- Other relevant documentation issued from time-to-time by SafeWork NSW or NSW EPA.

Follow the advice of the hygienist / competent (asbestos assessor) person engaged from the DoE hygienist panel to conduct a risk assessment and determine the most appropriate control measures and remediation strategies prior to asbestos removal works getting underway.

Several examples of common circumstances involving soil and ACM have been determined. For each of those circumstances, the following procedures should be followed.

## 7.1.1 SPARROW-PICKING OF ACM FRAGMENTS

- Following determination of the area affected by fragments of ACMs by a competent person / asbestos assessor (hygienist) selected from the DoE hygienist panel and approval to commence works from DoE, a permit will be issued to engage a friable licensed asbestos contractor.
- It is likely that fragments of ACM are in the form of asbestos cement sheeting (ACS), bituminous membrane or vinyl tile
- The asbestos removal contractor approved by DoE is engaged to sequentially and systematically travel across each
  area and remove all instances of fragments of potential ACM from exposed ground surfaces.
- All works are to require asbestos air monitoring provided by a hygienist selected from the DoE hygienist panel.

- All works to require an asbestos clearance inspection undertaken by a hygienist selected from the DoE hygienist panel following the completion of the asbestos removal works.
- All documents, including licenses, airborne asbestos monitoring, asbestos clearance inspections and tipping dockets, is to be provided to DoE.
- All records are to be updated.

#### 7.1.2 ENCAPSULATION OF SOIL CONTAINING ACM ON-SITE

- Ensure that the area is isolated in the interim and any potential dust is managed.
- Ensure that a document such as a remedial action plan (RAP), including a site specific asbestos management plan (SSAMP) is prepared or updated by a competent person / asbestos assessor (hygienist) selected from the DoE hygienist panel, detailing the encapsulation method (including comments on suitability for intended land use, e.g. car park) and environmental management requirements during implementation (e.g. dust and noise management). If the selected hygienist requires additional soil expertise, then engage a suitably experienced contaminated land management consultant, preferably from within their own company and known to DoE, with experience gained from DoE sites.
- Ensure that a permit is received from DoE to commence works.
- The AMP will determine if the asbestos is friable / non-friable and the extent of impact (lateral and vertical) through selected sampling and analysis.
- That document is to be submitted to SafeWork NSW, along with a permit application to SafeWork NSW by the selected asbestos removal contractor.
- DoE to obtain written approval from EPA before work permit is granted by DoE.
- DoE to verify compliance under WH&S Act and POEO Act.
- Notification by DoE is to be made to the respective council to allow inclusion on the site s149 certificate (under the NSW EPA Act 1997).
- In addition, the area to be encapsulated is to be documented / surveyed in such a manner to accurately determine location and depth at a later date.
- Upon receipt of both above mentioned permits from DoE and SafeWork NSW, works are to commence, along with asbestos air monitoring by a hygienist selected from the DoE hygienist panel during the encapsulation process.
- Upon completion an inspection is undertaken by the hygienist consultant to confirm activities as detailed within the RAP/AMP have been implemented and providing comment that the land has been remediated / encapsulated to allow for intended use and a site management plan is prepared to manage any future subsurface activities that may be required for the site (e.g. excavation of a trench to install new electricity cables or stormwater).

#### 7.1.3 EXCAVATION OF SOIL CONTAINING ACM FROM SITE

The preferred method is encapsulation of soils on-site, however if excavation and removal of soils from site becomes necessary, then the following is to be implemented as a general guide:

- Ensure that the area is isolated in the interim and any potential dust is managed.
- Ensure that a document such as a remedial action plan (RAP) including an asbestos removal control plan (ARCP) is prepared by a competent person / asbestos assessor (hygienist) selected from the DoE hygienist panel providing recommendations for the excavation of soil so as to provide for environmental management requirements during implementation (e.g. dust and noise management). If the selected hygienist requires additional soil expertise, then they are to involve a suitably experienced contaminated land management consultant, preferably from within their own company and known to DoE, with experience gained from DoE sites.

- Ensure that a permit is received from DoE to commence works.
- The ARCP will determine if the asbestos is friable / non-friable.
- That document is to be submitted to SafeWork NSW, along with notification to SafeWork NSW by the selected asbestos removal contractor.
- Upon receipt of both above mentioned permits from DoE and SafeWork NSW, works are to commence, along with asbestos air monitoring by a hygienist selected from the DoE hygienist panel during the removal process.
- Upon completion of soil removal (that portion contaminated with ACM), an inspection is undertaken by the hygienist consultant to confirm activities as detailed within the RAP/ARCP have been implemented and providing comment that those works have been completed in respect to asbestos contamination to a satisfactory level to allow for the next stage of works to commence. The site management plan (inclusive of a possible unexpected finds protocol) continues to be followed to manage any future occurrence of subsurface ACM that may be exposed during the excavation of soils on-site.

Following the investigation, the material should be classified in accordance with NSW EPA Waste Classification Guidelines – Part 1: Classification of waste 2014, and taken to an approved landfill site that is licensed to receive waste relevant to its classification.

# 8 LIMITATIONS

This Report is provided by WSP Australia Pty Limited (WSP) for NSW Department of Education (Client) in response to specific instructions from the Client and in accordance with WSP's proposal dated 21/07/2016 and agreement with the Client dated 12/10/2016 (Agreement).

#### PERMITTED PURPOSE

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Hazardous materials that could be routinely encountered in the normal day-to-day activities occurring on the Site, have been identified and assessed, however there is no guarantee that the Site is free of hazardous materials, since future activities may reveal hazardous materials in areas inaccessible or unknown to WSP.

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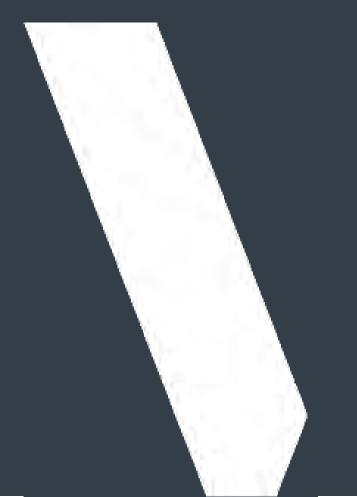
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# APPENDIX A SITE PLAN





# **APPENDIX B**

SITE MANAGEMENT REQUIREMENTS - CHECKLISTS



# **B1 SITE MANAGEMENT REQUIREMENTS - CHECKLISTS**

Table B.1 Three-Monthly Interval Checklist

AREA		INSPECTION DETAILS	INITIAL INSPECTION	SUBSEQUENT THREE-MONTYLY INSPECTIONS					
	LOCATION		DATE	DATE	DATE	DATE	DATE		
A	Unofficial car parking area South-west of the main hall.	Surface cover adequate? (Y/N)							
		Suspected asbestos materials visible? (Y/N)							
В	Main Play field	Surface cover adequate? (Y/N)							
		Suspected asbestos materials visible? (Y/N)							

Table B.2 Incident Inspection Checklist (e.g following heavy rain or disturbance)

	INSPECTION	INITIAL INSPECTION	SUE	ONS			
AREA	LOCATION	DETAILS	DATE	DATE	DATE	DATE	DATE
A	Unofficial car parking area South-west of the main hall.	Surface cover adequate? (Y/N)					
		Suspected asbestos materials visible? (Y/N)					
В	Main Play field	Surface cover adequate? (Y/N)					
		Suspected asbestos materials visible? (Y/N)					

# **Asbestos Register**

(Hazardous Materials and Risk Assessment)



School:	Concord High School (8535)
Region:	South Western Sydney AMU
State Electorate:	Drummoyne
Local Government Area:	Canada Bay

Last Reviewed By:	WSP 13-OCT-2015
Last Revised By:	OHMS Hygiene 26-MAY-2021

# Historical Fibro In Grounds Investigations/Events

Yes

Please refer to the latest site specific Asbestos Management Plans available from the Department's website (Refer to Note 2).



# **Preface to Asbestos Register**

#### Limitations

Asbestos Registers established (first surveyed 2007/08) and maintained for the Department of Education (DoE) are limited in extent, in that:

- 1. All inspections and surveys of materials and finishes in DoE facilities are non-disturbance, with
- 2. Samples undertaken by hygienist to determine whether a sample is an Asbestos Containing Material (ACM),
- 3. The hygienist may apply a single sample to like materials within a space and adjoining spaces, but not normally between buildings,
- 4. Successive inspections have reduced any inconclusive records such as 'assumed asbestos' in difficult to access areas, by undertaking additional sampling with lifting devices.
- 5. In compliance with WHS Act 2011 and WHS Regulations 2017, additional inspections have been undertaken in ceiling spaces and sub-floor areas where access is possible.
  - Where the ground floor is slab on ground, no inspection is made beneath the slab.
  - Where fibro fragments (ACM taken for sampling) are located in ceiling spaces or sub floor voids air monitoring is normally undertaken at time of sampling, and clearance undertaken as soon as practicable.
- 6. No attempt has been made to identify any ACM that is hidden from view or encapsulated within
  - · Any wall cavity
  - Sub floor area, particularly formwork for slabs in/on ground,
  - Services (that may use ACM) such as: pipe lagging, asbestos cement pipes, flues.
- 7. All known ACMin Grounds (Fibro in Grounds) is made available in associated site specific asbestos management plans in DoE electronic files.

  Notwithstanding information provided, ACM may be present in grounds from time to time and caution must be exercised prior to any grounds disturbance.

# Use of the Asbestos Register

Prior to any disturbance works being undertaken in a building to which this asbestos register applies it will be necessary to confirm the extent of any ACM by a disturbance investigation:

- If the building was built prior to 2003
- . If any ACM has been identified in the Asbestos Register for the building.

# Update of Asbestos Registers

Asbestos Register Data is updated regularly by the DoE Hygienist Panel via the Online Asbestos Register Tool (Managed by Business Systems, School Infrastructure NSW). Internal users can view the latest edition of the Asbestos Register in the AMS.

Please note: The Department's external website may not contain the latest revision of the Asbestos Register.

#### Notes 1: Vermiculite

- During 2018/19, all vermiculite occurrences in DoE schools identified in 2007/08, were 'composite tested' in accordance with a safe work NSW agreed procedure. This required multiple testing of all vermiculite occurrences.
- During the period 2007/08 to 2018/19, some vermiculite has been over sheeted and a warning is indicated for schools where this has happened.

# Note 2: DoE website link for information is here:

https://www.schoolinfrastructure.nsw.gov.au/about-us/workingwithus/schools-asbestos-register.html https://education.nsw.gov.au/about-us/strategies-and-reports/our-reports-and-reviews/schools-asbestos-register

# Note 3: Material Condition Assessment

The material condition assessment descriptors from Section 3 of the Asbestos Management Plan (AMP) is extracted below. Please read the AMP in its entirety for further information.

#### 3.3.2.1 Material condition assessment

The OART records the material condition of identified ACM in the following format:

Rating	Description
Good condition (1)	For non-friable asbestos that is sealed and has no visible damage. This primarily related to asbestos cement (AC) sheet and vinyl tiles
Mnimal damage (2)	For non-friable asbestos that has a very small amount of damage, eg hairline cracks.
Some damage / unsealed (3)	For non-friable asbestos with significant breakage or several small areas where material has been damaged, revealing loose asbestos fibres. Non-friable asbestos that is unsealed.
Poor condition (4)	For non-friable asbestos that has extensive damage. Visible asbestos debris
Friable asbestos (5)	Any occurrence of friable asbestos

Product	Material Description	Extent	Location	Material Condition	Risk Status	Remediation Priority	Result
B00A - Administ	ration/Library - 19	78 - B	rick/Block				
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00A - M1001 - Moven	nent - 16 m2						
No Asbestos							
B00A - M1002 - Workr	room - 10.99 m2						
No Asbestos							
B00A - M1003 - Moven	nent - 54.8 m2						
No Asbestos							
B00A - R0001 - Deputy	Principal Office - 16 m2	2					
No Asbestos							
B00A - R0003 - Clinic-	Toilets - 2 93 m2						
No Asbestos							
B00A - R0004 - Clinic-	Toilets - 2.84 m2						
No Asbestos	. S.O.O. E.O.T.IIIE						
B00A - R0006 - Moven	nent - 26 17 m2						
No Asbestos	ICIN - 20.17 1112						
	ew/Office - Type 1 - 10.9	6 m2					
No Asbestos	sw/Office - Type 1 - 10.5	O IIIZ					
	ew/Office - Type 1 - 10.6	0 m2					
No Asbestos	sw/office - Type 1 - 10.0	31112					
	stration - Clerical - 14.3	2 m2					
No Asbestos	istration - Gerical - 14.5	2 1112					
B00A - R0010 - Moven	20nt 110 71 m2						
	lent - 110.711112						
No Asbestos	stion Board Camboard	072				lete. Ne incuestion e	Flire alectrical installat
	ution Board Cupboard -	.07 1112			, N	iote: No inspection o	f live electrical installat
No Asbestos	-1.055 22.422						
B00A - R0012 - Princip	pai Office - 22.12 m2						
No Asbestos	laturation Objects at 100.00	0 0					
	istration - Clerical - 28.6	2 m2					
No Asbestos	E						
B00A - R0016 - Public	Entry - 49.95 m2						
No Asbestos							
	ew/Meeting - 26.02 m2						
No Asbestos							
B00A - R0019 - Staff -	i oilet - 4.56 m2						
No Asbestos	T 11 4 T 2						
B00A - R0020 - Staff -	I oilet - 5 m2						
No Asbestos							
B00A - R0021 - Moven	nent - 37.29 m2						
No Asbestos							
B00A - R0022 - Toilets	-Boys - 12.27 m2						
No Asbestos							
B00A - R0023 - Toilets	-Girls - 12.22 m2						
No Asbestos							
	ng Store - Distributed - 7	.31 m2					
No Asbestos							
B00A - R0025 - Movem	nent - 23.89 m2						

<b>.</b>	
No Asbestos	
B00A - R0026 - Semin	ar - 85.19 m2
No Asbestos	
B00A - R0027 - Workr	pom - 52.66 m2
No Asbestos	
B00A - R0028 - Audio	Visual Workroom - 42.05 m2
No Asbestos	
B00A - R0029 - Workr	com - 12.99 m2
No Asbestos	
B00A - R0030 - Main A	rea - 218.05 m2
No Asbestos	
B00A - R0031 - Staff -	Toilet - 3.94 m2
No Asbestos	
B00A - R0032 - Staff -	Toilet - 3.68 m2
No Asbestos	
B00A - R0033 - Utility	Space - 12.45 m2
No Asbestos	
B00A - R0034 - Moven	nent - 5.05 m2
No Asbestos	
B00A - R0035 - Stairs	- 18.45 m2
No Asbestos	
B00A - R0036 - Stairs	- 3.94 m2
No Asbestos	
B00A - R0037 - Extern	al Movement - 18.72 m2
No Asbestos	
	istration - Clerical - 18.36 m2
Non Accessible	
B00A - R1001 - Semin	par - 12 24 m2
No Asbestos	AT TANALET TIME
B00A - R1002 - Semin	or - 0.13 m2
No Asbestos	xi - 3.13 III.2
B00A - R1003 - Staff S	tudu 11 0 m2
No Asbestos	iudy - 11.6 miz
B00A - R1005 - Comm	
	onroom - 20 m2
No Asbestos	
B00A - R1007 - Comm	onroom - 81.98 m2
No Asbestos	
B00A - R1008 - Moven	ient - 59.72 m2
No Asbestos	
B00A - R1009 - Toilets	-Boys - 12.34 m2
No Asbestos	
B00A - R1010 - Toilets	-Girls - 12.34 m2
No Asbestos	
B00A - R1012 - Senior	Study - 20.3 m2
No Asbestos	
B00A - R1013 - Staff -	Toilet - 8.93 m2
No Asbestos	
B00A - R1014 - Staff -	Toilet - 8.79 m2
No Asbestos	
B00A - R1015 - Moven	nent - 35.61 m2
No Asbestos	
B00A - R1016 - Ancilla	ry Staff - 24.91 m2
	5/11/2021 4/

No Asbestos							
B00A - R1018 - Distribu	ution Board Cupboard -	.52 m2			N	ote: No inspection of	live electrical installation
No Asbestos							
B00A - R1019 - Movem	ent - 6.44 m2						
No Asbestos							
B00A - R1022 - Movem	ent - 3.11 m2						
No Asbestos							
B00A - R1023 - Lift - 1.	15 m2						
No Asbestos							
B00A - R1024 - Stairs -	116.6 m2						
No Asbestos							
B00A - R1025 - Stairs -	· 26.07 m2						
No Asbestos							
B00B - General L	earning - 1978 - I	Rrick/F	Block				
	earring - 1970 - 1	DIICK/E	DIOCK				
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00B - R0007 - Movem	ent - 39.3 m2						
No Asbestos							
B00B - R0008 - Distribu	ution Board Cupboard -	1.2 m2			N	ote: No inspection of	live electrical installation
No Asbestos							
B00B - R1001 - Store -	21.75 m2						
No Asbestos							
B00B - R1002 - Movem	ent - 120.62 m2						
No Asbestos							
B00B - R1003 - Staff St	tudy - 34.69 m2						
No Asbestos	iday o noo miz						
B00B - R1004 - Secure	Storeroom - 4 9 m2						
No Asbestos	Otororoom 4.5 mz						
B00B - R1005 - Intervie	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	M m2					
No Asbestos	W/Office - Type 1 - To.	74 1112					
	20.442						
B00B - R1006 - Movem	ent - 38.14 m2						
No Asbestos							
B00B - R1007 - Distribu						-	Flive electrical installation
B00B - R1007 - Distribu Ceiling Structures/Linings	Compressed AC Sheet	<b>1.45 m2</b> 2m2	All surfaces	Good Condition (1)	N Low (1)	lote: No inspection of Low Priority (2-3)	Flive electrical installation Chrysotile (white asbestos)
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem	Compressed AC Sheet					-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos	Compressed AC Sheet sent - 121.49 m2	2m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem	Compressed AC Sheet sent - 121.49 m2	2m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos	Compressed AC Sheet sent - 121.49 m2	2m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Genera	Compressed AC Sheet ent - 121.49 m2	2m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - General No Asbestos	Compressed AC Sheet ent - 121.49 m2	2m2 71 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Generat No Asbestos B00B - R1011 - Generat	Compressed AC Sheet ent - 121.49 m2 I Learning Space - 51.7	2m2 71 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - General No Asbestos B00B - R1011 - General No Asbestos	Compressed AC Sheet ent - 121.49 m2 I Learning Space - 51.7	2m2 71 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Generat No Asbestos B00B - R1011 - Generat No Asbestos B00B - R1011 - Staff St	Compressed AC Sheet  ent - 121.49 m2  I Learning Space - 51.7  I Learning Space - 52.5  tudy - 21.37 m2	2m2 71 m2 51 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - General No Asbestos B00B - R1011 - General No Asbestos B00B - R1011 - Staff Staff No Asbestos	Compressed AC Sheet  ent - 121.49 m2  I Learning Space - 51.7  I Learning Space - 52.5  tudy - 21.37 m2	2m2 71 m2 51 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Genera No Asbestos B00B - R1011 - Genera No Asbestos B00B - R1013 - Staff Staff No Asbestos B00B - R1014 - Genera	Compressed AC Sheet  ent - 121.49 m2  I Learning Space - 51.7  I Learning Space - 52.8  tudy - 21.37 m2  I Learning Space - 51.0	2m2 71 m2 51 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Generat No Asbestos B00B - R1011 - Generat No Asbestos B00B - R1013 - Staff Staff No Asbestos B00B - R1014 - Generat No Asbestos	Compressed AC Sheet  ent - 121.49 m2  I Learning Space - 51.7  I Learning Space - 52.8  tudy - 21.37 m2  I Learning Space - 51.0	2m2 71 m2 51 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - General No Asbestos B00B - R1011 - General No Asbestos B00B - R1013 - Staff Staff No Asbestos B00B - R1014 - General No Asbestos B00B - R1015 - General	Compressed AC Sheet lent - 121.49 m2 I Learning Space - 51.7 It Learning Space - 52.8 Ludy - 21.37 m2 I Learning Space - 51.0 I Learning Space - 51.0	2m2 71 m2 51 m2				-	Chrysotile (white
B00B - R1007 - Distribution Ceiling Structures/Linings B00B - R1009 - Movem No Asbestos B00B - R1010 - Generat No Asbestos B00B - R1011 - Generat No Asbestos B00B - R1013 - Staff Staff Staff No Asbestos B00B - R1014 - Generat No Asbestos B00B - R1015 - Generat No Asbestos	Compressed AC Sheet lent - 121.49 m2 I Learning Space - 51.7 It Learning Space - 52.8 Ludy - 21.37 m2 I Learning Space - 51.0 I Learning Space - 51.0	2m2 71 m2 51 m2				-	Chrysotile (white

No Asbestos							
B00B - R1018 - General	Learning Space - 51.7	2 m2					
No Asbestos							
B00B - R1019 - General	Learning Space - 51.6	4 m2					
No Asbestos							
B00B - R1020 - General	Learning Space - 52.2	9 m2					
No Asbestos							
B00B - R1021 - General	Learning Space - 50.0	6 m2					
No Asbestos							
B00B - R1022 - Externa	Il Movement - 3.32 m2						
No Asbestos							
B00C - Science/G	Seneral Learning	- 1978	- Brick/Block				
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00C - R0001 - Moveme	ent - 59.62 m2						
No Asbestos							
B00C - R0002 - Staff - T	Toilet - 5.13 m2						
Ceiling Structures/Linings	Flat AC Sheeting	6m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00C - R0003 - Staff - T	Toilet - 5.1 m2						
Ceiling Structures/Linings	Flat AC Sheeting	2m2	South facing, Variable positions	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00C - R0004 - Moveme	ent - 4.3 m2						
No Asbestos							
B00C - R0005 - Cleaning	g Store - Distributed - 6	6.66 m2					
No Asbestos							
B00C - R0006 - Laborat	tory L.S 97.31 m2						
Ceiling Structures/Linings	Non Accessible Area	m2					
B00C - R0007 - Prepara	ation - 68.54 m2						
Ceiling Structures/Linings	Non Accessible Area	m2					
B00C - R0008 - Laborat	tory L.S 94.57 m2						
Ceiling Structures/Linings	Non Accessible Area	m2					
B00C - R0012 - Growing	g/Breeding - 24.81 m2						
No Asbestos							
B00C - R0014 - Laborat	tory L.S 92.09 m2						
Ceiling Structures/Linings	Non Accessible Area	m2					
B00C - R0015 - Distribu	tion Board Cupboard -	1.3 m2			N	ote: No inspection o	f live electrical installation
No Asbestos							
B00C - R0020 - Stairs -	35.43 m2						
No Asbestos							
B00C - R1001 - General	Learning Space - 52.6	6 m2					
No Asbestos							
B00C - R1002 - General	Learning Space - 55.9	9 m2					
No Asbestos							
B00C - R1003 - Moveme	ent - 66.04 m2						
No Asbestos							
B00C - R1004 - Toilets-	Boys - 11 m2						

Ceiling Structures/Linings	Flat AC Sheeting	11m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00C - R1005 - Toilets-	Girls - 13.71 m2						
Ceiling Structures/Linings	Flat AC Sheeting	14m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00C - R1006 - Toilets-	Disabled - 3.64 m2						
No Asbestos							
B00C - R1007 - Access	Student Shower/Toilet	t - Type :	2 - 18.21 m2				
No Asbestos							
B00C - R1008 - General	Learning Space - 51.7	′1 m2					
No Asbestos							
B00C - R1009 - General	Learning Space - 51.0	7 m2					
No Asbestos							
B00C - R1010 - General	Storeroom - 32.72 m2	2					
No Asbestos							
B00C - R1014 - General	Learning Space - 53.7	7 m2					
No Asbestos	gopues son						
B00C - R1015 - Moveme	ent - 18.53 m2						
No Asbestos	10.00 1112						
B00C - R1016 - General	Learning Space - 52.7	'2 m2					
No Asbestos	Learning Space - 32.7	21112					
B00C - R1017 - Distribu	tion Poord Cuphoord	1 1 m2			N	ato. No increation of	flive electrical installa
Ceiling		2m2	All surfaces	Good Condition		Low Priority (2-3)	
Structures/Linings	Compressed AC Sheet	21112	All surfaces	(1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00C - R1018 - Staff St	udy - 37.12 m2			. ,			,
No Asbestos							
B00C - R1019 - Intervie	/ w/Office - Tvpe 1 - 15.1	m2					
No Asbestos	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
B00C - R1020 - Moveme	ent - 131.42 m2						
No Asbestos							
B00C - R1025 - Stairs -	42 63 m2						
No Asbestos							
	-11 407	0 D.:	- L/DL L-				
B00D - Art/Genera	ai Learning - 197	8 - Bri	CK/BIOCK				
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00D - R0003 - Kiln Spa	ice - 10.83 m2						
No Asbestos							
B00D - R0007 - Toilets-	Girls - 21.49 m2						
No Asbestos							
B00D - R0009 - Staff - T	oilet - 12.01 m2						
No Asbestos							
	oilet 5 95 m2						
B00D - R0010 - Staff - T	Ollet - 5.05 IIIZ						
	Office = 3.03 THZ						
No Asbestos							
No Asbestos B00D - R0011 - Moveme							
No Asbestos B00D - R0011 - Moveme No Asbestos	ent - 33.67 m2	.68 m2			N	ote: No inspection of	f live electrical installa
No Asbestos B00D - R0011 - Movemo No Asbestos B00D - R0022 - Distribu	ent - 33.67 m2	.68 m2			N	ote: No inspection of	ilive electrical installa
No Asbestos  B00D - R0011 - Moveme  No Asbestos  B00D - R0022 - Distribu  No Asbestos	ent - 33.67 m2 tion Board Cupboard -				N	ote: No inspection of	f live electrical installa
B00D - R0010 - Staff - T No Asbestos B00D - R0011 - Moveme No Asbestos B00D - R0022 - Distribu No Asbestos B00D - R0028 - Materia No Asbestos	ent - 33.67 m2 tion Board Cupboard -				N	ote: No inspection of	Flive electrical installa

No Asbestos							
B00D - R0031 - Material	s Technology L.S 80	.67 m2					
No Asbestos							
B00D - R0032 - Metal Te	echnology Bay - 24.47	m2					
No Asbestos							
B00D - R0033 - Material	s Technology L.S 98	.22 m2					
No Asbestos							
B00D - R0034 - Resource	ce/Project Store - 18.8	5 m2					
No Asbestos							
B00D - R0035 - Welding	Store - 3.85 m2						
No Asbestos							
B00D - R0036 - Material	s Technology L.S 92	.54 m2					
No Asbestos							
B00D - R0037 - Wood Te	echnology Bay - 18.83	m2					
No Asbestos							
B00D - R0038 - Moveme	ent - 32.31 m2						
No Asbestos							
B00D - R0039 - External	Movement - 16.71 m <sup>2</sup>						
No Asbestos							
B00D - R1002 - General	Storeroom - 7.99 m2						
No Asbestos							
B00D - R1004 - Moveme	ent - 158.77 m2						
No Asbestos							
B00D - R1005 - Distribut	tion Board Cupboard -	1.16 m <sup>2</sup>	2		N	lote: No inspection o	f live electrical installation
No Asbestos	-					•	
B00D - R1011 - G.L.S. St	tore - 15.22 m2						
No Asbestos							
B00D - R1012 - Design I	S 63.97 m2						
No Asbestos							
B00D - R1014 - Moveme	ent - 33.64 m2						
No Asbestos							
B00D - R1016 - General	Learning Space - 52.2	2 m2					
No Asbestos	Loan mig opaco oziz						
B00D - R1017 - General	Learning Space - 54 8	3 m2					
No Asbestos	Learning Opace - 54.0	J 1112					
B00D - R1018 - Secure	Storeroom - 3.6 m2						
No Asbestos	J.J. 61 JUH - J.O HIZ						
B00D - R1019 - General	Storeroom 26.06						
	3.01e100ff1 - 20.00 M2						
No Asbestos	Stororos 9 20						
B00D - R1020 - Secure	3.38 m2						
No Asbestos							
B00D - R1021 - Staff Stu	udy - 21.81 m2						
No Asbestos							
<b>B00E - Multi Purp</b>	ose Facilities/Pu	pil Fa	cilities - 1978 - Brick/B	lock			
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00E - R0001 - Multi-Pu	rpose Space - 469.42	m2					
No Asbestos							
B00E - R0002 - Chair Sto	ore - 23.56 m2						
I WOOZ - OHAII OU	5.5 <b>2</b> 5.00 HIZ						

Ceiling	Flat AC Sheeting	24m2	All surfaces	Good Condition	Low (1)	Low Priority (2-3)	Chrysotile (white
Structures/Linings	Environment Stave 24.7	7?		(1)			asbestos)
	Equipment Store - 21.7		l			I	I
Ceiling Structures/Linings	Flat AC Sheeting	22m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0004 - Sport I	Equipment Store - 23.2	7 m2					
No Asbestos							
B00E - R0005 - Stage	- 65.58 m2						
No Asbestos							
B00E - R0006 - Moven	nent - 51.75 m2						
No Asbestos							
B00E - R0008 - Toilets	s-Boys - 10.72 m2						
No Asbestos							
B00E - R0011 - Genera	al Storeroom - 2.87 m2						
No Asbestos							
B00E - R0012 - Showe	or/Change - 29 66 m2						
Ceiling	Flat AC Sheeting	30m2	All surfaces	Good Condition	Low (1)	Low Priority (2-3)	Chrysotile (white
Structures/Linings		301112	All Sullaces	(1)	LOW (1)	Low Priority (2-3)	asbestos)
B00E - R0013 - Showe							
Ceiling Structures/Linings	Flat AC Sheeting	30m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0014 - Showe	er/Change - 29.68 m2						
Ceiling Structures/Linings	Flat AC Sheeting	30m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0015 - Showe	er/Change - 29.66 m2						
Ceiling Structures/Linings	Flat AC Sheeting	30m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0016 - Genera	al Storeroom - 2.8 m2						
No Asbestos							
B00E - R0017 - Toilets	-Girls - 9.61 m2						
No Asbestos							
	ng Store - Distributed -	71 m2					
No Asbestos	ng otore Distributed	.,					
B00E - R0023 - Toilets	Girlo 15.09 m2						
		100	All surfaces		1 (1)	Laur Drianit (2.2)	Ohn notic (v.b.)
Ceiling Structures/Linings	Flat AC Sheeting	16m2		Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0024 - Distrib	ution Board Cupboard	- 1.26 m2			N		live electrical installat
Ceiling Structures/Linings	Compressed AC Sheet	2m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0025 - Toilets	-Boys - 12.63 m2						
Ceiling Structures/Linings	Flat AC Sheeting	13m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
B00E - R0027 - Sport I	Equipment Store - 34.5	2 m2					
No Asbestos							
B00E - R0028 - Stairs	- 2.02 m2						
No Asbestos							
300E - R0029 - Moven	nent - 84.24 m2						
No Asbestos							
	al Storeroom - 38.12 m	2					
No Asbestos		_					
800E - R0031 - Lift - 1.	12 m2						
	12 1112						
No Asbestos							
B00F - Performi Exterior	ng Arts - 1978 - B	rick/Ve	neer				
ALEFIO							

Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00F - R0001 - Perforn	nance Workspace - 77	17 m2					
No Asbestos							
B00F - R0002 - Practic	e/Seminar - 123.17 m2						
No Asbestos							
B00F - R9002 - Main Sv	vitchroom - 7.98 m2						
No Asbestos							
B00F - R9003 - General	Storeroom - 79.56 m2						
No Asbestos							
B00F - R9004 - Externa	Movement - 32.11 m2						
No Asbestos							
B00G - Music - 19	978 - Brick/Venee	r					
Exterior							
Gable Verge Lining	Flat AC Sheeting	50m2	All surfaces	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00G - R0001 - Staff St	tudy - 26.04 m2						
No Asbestos							
B00G - R0002 - Music I	earning Space - 71.01	m2					
No Asbestos							
B00G - R0004 - Practic	e/Seminar - 26.96 m2						
No Asbestos							
B00G - R0005 - Music I	earning Space - 90.05	m2					
No Asbestos							
B00G - R0006 - Music \$	Store - 16.25 m2						
No Asbestos							
B00G - R0007 - Movem	ent - 57.62 m2						
No Asbestos							
B00H - Building	Services - 1978 -	Brick/l	Block				
Exterior							
Gable Verge Lining	Flat AC Sheeting	4m2	Throughout	Good Condition (1)	Low (1)	Low Priority (2-3)	Chrysotile (white asbestos)
Interior							
B00H - R0001 - Dust Ex	traction Space - 11.44	m2					
No Asbestos							
B00I - Pupil Facil	ities - 2020 - Meta	I Clad					
Exterior							
No Asbestos							
Interior							
B00I - R0001 - Uniform	Shop - 25.07 m2						
No Asbestos							
B00I - R0002 - Change	- 1.09 m2						
No Asbestos							
B00I - R0003 - Change	- 1 00 m2						
Door - Noods - Change	- 1.03 1112						

#### **Demountables**

## OS 600 10504 - Learning Unit - Small - Placement Date: 28-NOV-2015

#### Exterior

Eaves Linings	Flat AC Sheeting	8.64m2	Assumed Asbestos
Landing	Compressed AC Sheet	1.2m2	Assumed Asbestos
Step Treads	Compressed AC Sheet	1.08m2	Assumed Asbestos

#### Interior

# R1- General Learning Space

- Control and Cont			
End Wall Panel	Flat AC Sheeting	50m2	Assumed Asbestos
Ceiling Structures/Linings	Flat AC Sheeting	55m2	Assumed Asbestos

#### OS 840 10734 - Girls Toilet - Placement Date : 04-JUN-2021

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 710 10923 - Home Science/Pantry/Laundry - Placement Date: 08-OCT-2020

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 700 10974 - Art Learning Space/Workshop/Store - Placement Date: 19-OCT-2020

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

### OS 600 11104 - Learning Unit - Small - Placement Date: 21-AUG-2017

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 601 11166 - Learning Unit - Standard/Withdrawal - Placement Date: 14-JAN-2015

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 600 11472 - Learning Unit - Small - Placement Date: 29-NOV-2016

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 600 11603 - Learning Unit - Small - Placement Date: 18-NOV-2016

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

#### OS 600 11952 - Learning Unit - Small - Placement Date: 21-AUG-2017

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

#### OS 840 12907 - Girls Toilet - Placement Date: 18-JUN-2021

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

## NS 220 13195 - Science Learning/Preparation Space - Placement Date: 04-DEC-2015

#### Exterior

No Ashestos

#### Interior

#### R1-Laboratory L.S.

No Asbestos

#### **R2-Preparation**

No Asbestos

#### R3-Entry

No Asbestos

# OS 840 13767 - Girls Toilet - Placement Date: 20-DEC-2016

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Ashestos Found

## OS 600 15200 - Learning Unit - Small - Placement Date: 29-NOV-2016

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 600 15439 - Learning Unit - Small - Placement Date: 18-NOV-2016

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Eaves Linings	Flat AC Sheeting	8.64m2	Assumed Asbestos
Landing	Compressed AC Sheet	1.2m2	Assumed Asbestos
Step Treads	Compressed AC Sheet	1.08m2	Assumed Asbestos

#### Interior

#### R1-General Learning Space

End Wall Panel	Flat AC Sheeting	50m2	Assumed Asbestos
Ceiling Structures/Linings	Flat AC Sheeting	55m2	Assumed Asbestos

# OS 710 15508 - Home Science/Pantry/Laundry - Placement Date: 08-OCT-2020

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 841 15533 - Boys Toilet - Placement Date : 21-AUG-2017

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 600 16367 - Learning Unit - Small - Placement Date: 07-SEP-2017

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

# OS 600 17826 - Learning Unit - Small - Placement Date: 18-DEC-2015

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

#### OS 600 17833 - Learning Unit - Small - Placement Date : 28-NOV-2015

Note: This refurbished demountable may have asbestos present in remnant mastic in re-used window frames and remnant adhesive in the re-used floor.

No Asbestos Found

#### OS 840 19459 - Girls Toilet - Placement Date: 04-JUN-2021

No Asbestos Found